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No. 157



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10 August 1981

CHINA REPORT AGRICULTURE

No. 157

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I. GENERAL INFORMATION

REPORTS ON DEVELOPMENT OF STATE FARMS

Need for Further Readjustments

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 4 1981
p 4-5

[Artical by Zhang Linchi [1728 2651 3069], Alternate Member of the CCP Central Committee]

[Text] As a result of implementation of the line of the Third Plenary Session of the 11th Party Central Committee and adherence to a program of readjustment during the past several years, the extent of increase in output and profits of state farms has been substantial. Grain and pulse output from the agriculture and land reclamation system nationwide during 1980 totaled 15 billion jin, 7.27 percent increase over the great bumper harvest year of 1979. Cotton output totaled 1.74 million dan, an 8.14 percent increase over the previous year. Total output of oil seed crops was 2.3 million dan, a 9.7 percent increase in output over the previous year; sugar crops totaled 28.27 million dan, a 24.5 percent increase over the previous year. The total output value from industries reached 3.9 billion yuan, a 17.13 percent increase over 1979, and rubber, tropical crops, and other trades and industries also showed varying degrees of increase. After having made fairly good achievements, how can agriculture and land reclamation enterprises further carry out readjustment of programs?

In carrying out readjustment programs during 1981, state farms will mostly "scale down capital construction, and raise production." In a situation of great retrenchment in capital construction investment, readjustment can make better use of farm productivitiy, put production on the track of steady development, and bring about new improvements in the levels of administration and management to make greater contributions to the country.

Further Readjustment in the Thrust of Investment

During the period of readjustment, all farming and land reclamation enterprise funds (state distributed investment, surplus funds from the contracting for work to be done, and depreciation funds) should be used on a priority basis to support simple further production, and used to equip or futher equip existing enterprises. In general, there will be no construction of new projects. Where state financial and material resources permit, there is to be reclamation of wilderness lands within the limits of capabilities to increase new production capacity.

Development of production has two aspects. One is construction of new production capacity; the other is making the most of existing production capacity. During the period of readjustment, farm and land reclamation enterprises should concentrate on improvements in consolidation, taking fullest advantage of existing production potential. From improved consolidation, they should move on toward steady development.

Equipping and further equipping existing enterprises entails principally the following: Equipping and further equipping with farm machines and implements (including farm animal machines and implements, seed processing machines and tools, plant protection machines, and tools); maintenance and equipping of water conservancy and farmlands construction; planting of trees for afforestation, and improvement of grasslands. Most of these are technical measures for production; some have a capital construction character; and the sphere of some is not that clear cut. Proper use of funds requires clearly defining the character of these items. State investment and approved outlays by others are to be used in projects of a capital construction nature. Funds surplus to contracting for work are to be used in measures for production of a technical nature.

Funds needed for scientific research, culture and education, hygiene, and labor insurance will be guaranteed to the maximum extent. There is need to increase the proportion of investment for worker dormitories and welfare benefits. As production develops, gradual improvements is to be made in workers' material and cultural standards of living. State farms should build new small cities and towns in a planned way to gradually narrow the differences between city and countryside.

Readjustment of the Proportions of Various Industries Within Agriculture

State farms should adhere to a program of "diversification within a single industry," and should particularly proportion agriculture, forestry, and animal husbandry. For many years we have given major emphasis to grain production, and this is right. However, insufficient attention has been given forestry and animal husbandry production, as a result of which forestry and animal husbandry as a part of agriculture are proportionately excessively small. This state of affairs is disadvantageous to the material energy cycle in the material energy cycle in the agricultural ecology system. It reduces the fertility of the soil, and does not make full use of natural resources. Therefore, it is necessary to readjust the proportion of various industries within agriculture, and it is necessary to build a new scientific ecologically balanced system on the basis of natural resources in local areas.

In the readjustment of the proportion of various industries within agriculture, it is necessary, first of all, to increase the ratio between forestry and animal husbandry. The land area within state farm plans is limited, yet we intend that the forest area will amount to 5 or 10 percent, and on hilly areas more than 15 percent, within the space of several years. This is possible and also necessary to achieve. The output value of our livestock industry amounts to only somewhat more than 10 percent of the total output values of agriculture, too small a proportion. More seriously, the ratio of the livestock industry on numerous farms is still declining! Vigorous development of animal husbandry must be made to increase the ratio of the livestock industry. Substandard grain, bran, stalks and stems, fodder, and green manure must be used to the full so that farming and animal husbandry will be mutually reinforcing and mutually promoting.

As the degree of agricultural mechanization steadily increases, the problem of excess workforce on numerous farms becomes more and more manifest. Development of diversification is a rational way to use the workforce, to make the most of local advantages, and to enliven the economy.

Readjustment of the Proportions Within Farming

While assuring grain production, there is need to adapt general methods to local circumstances for the development of economic crops such as cotton, oil seed crops, sugar crops, and other special products. Naturally, we take an overall view, and not only assure the quantity of grain and the amount of grain surrendered to the state, but also steadily increase grain output. Within the farming system, there is need for rational rotational cropping, return of stalks and stems to the field, the growing of green manure, increased applications of organic fertilizer, and where conditions permit, trial rotational farming of field crops and pasture grass.

Readjustment of the Internal Proportions of the Animal Husbandry Industry

We have overemphasized "large scale raising of one's own hogs," in livestock production, creating, as a result, an irrational situation in the internal proportions of the animal husbandry industry. In the readjustment process, there is need to develop sheep and cows, particularly milk cows and cows used for both milk and beef, cutting back on the raising of horses, and stabilizing hog herds. Sheep and cows are grass-eating animals for whom savings can be effected in concentrated fields. They can make full use of grassy mountains and grasslands, and agricultural byproducts such as stalks and stems of plants, thereby improving the utilization rate of the products of photosynthesis. The grasslands have to be improved, since they are the material foundation for development of the animal husbandry industry. Where grasslands are inadequate, general methods should be adapted to local situations in trial rotational farming of field crops and pasture grass. Nowadays, the role of horses on farms is becoming ever smaller. Except for their use as draft animals, losses sustained for herds of horses in production should be converted to profits with all possible speed, and where losses cannot be reversed, the horses should be gotten rid of as soon as possible.

Recently hog production has declined in various degrees at numerous farms. This is a situation that must arouse attention. Opportunity should be seized to restructure hog herds. Particularly needed is restructuring of sow herds, with a culling of inferior breeds and an increase in superior breeds of sows, assuring a basic number of sows. In the development of hog production, the problem of losses has to be solved. Feed grains should be included among the "three keeps" in grain plans. Substandard grain used for feed should be priced according to its quality, and not allocated at the premium price paid for grain produced in excess of quotas. Pig manure used as fertilizer must also be priced; it should not be used without payment of compensation for it. Policies should be liberalized; breeding should be centralized and fattening dispersed; systems of responsibility such as calculation of remuneration on the basis of production should be instituted through adaptation of general methods of specific circumstances; and workers' households should be encouraged to raise hogs.

Full use should be made of local resources, and general methods adapted to local situations for the raising of ducks, chickens, rabbits, bees, deer, and fish.

Many units have sustained losses no matter whether raising hogs, cattle, or sheep. Reversing losses depends primarily on improvements in administration and management. The central problem is doing a good job of "specialized contracting, with calculation of remuneration being linked to production," or some other form of a system of responsibility for production. Carry out coordination of specialities under the principle of voluntary participation and mutual benefit.

Once a good job has been done in the animal husbandry industry, not only can livestock products such as meat, milk, eggs, and furs be provided the country, but a large quantity of organic fertilizer can be furnished to the farming industry to promote the development of agriculture.

Increase the Ratio of Forestry

In recent years, we have given priority to the building of shelter forests for farmland, grasslands, and rubber plantations. In windblown sand and arid areas, in particular, there should be more emphasis on construction of shelter forests and of forests to protect farmland. A good job should be done in the greening of the "four besides" [beside villages, roads, waterways, and fields]. Mountain slopes with a large gradient should be afforested in strips. Low-lying, desertified, and alkaline-saline places unsuited to the growing of agricultural crops should be planted to firewood forests. Where suitable, orchards, grapes, and woody plants to take the place of grain and oil-seed crops should be planted.

Readjustment of Agriculture and Land Reclamation Industries

New construction, continuation of construction, and expanded construction of agriculture and land reclamation industries should be conscientiously studied in accordance with the spirit of national readjustment, those being halted or curtailed that should be, and those being retained that should be.

In readjustment, agricultural byproducts processing industries and light textile industries should be developed; labor intensive industries and construction materials industries should be developed; and light industry market items should be increased. Machine industries should be readjusted and specialized cooperation should be promoted, the better to serve the mechanization of agriculture.

For those industries that have no sources of raw materials, whose goods find no markets, whose quality is shoddy and prices high, and that have sustained losses for a long time, decision should be made to close them, halt them, merge them, or convert them.

During the period of adjustment, we should base ourselves on restructuring and improvement of existing industrial enterprises, doing a good job of tapping potential, innovation, reform, filling in gaps, and linking parts to form wholes to give full play to the productive capacity of existing industrial enterprises.

It is recommended that both inside and outside the agriculture and land reclamation system, and inside and outside provinces and regions, there be various forms of coordination under the principles of voluntary participation and mutual benefit. Attention should be given readjustment of benefit distribution relationships in processing industries and the farming industry, with appropriate return to raw materials producing units of profits from industrial plants. This can both avoid duplication of construction and can fire the enthusiasm of units that produce raw materials, the plants thereby "having enough to eat and run at full speed."

Make Up Deficits and Increase Surpluses

Attention to the work of making up deficits and increasing surpluses is one of the major ingredients in the implementation of readjustment programs by agriculture and land reclamation enterprises. We have made quite good headway during the past 2 years, but it is still necessary to realize that nationally agriculture and land reclamation system enterprises running deficits still amount to 40 percent of the total. During the period of readjustment, making up of deficits and increasing of surpluses should be done as soon as possible, a reduction by at least 50 percent occurring during 1981 to reduce below 20 percent the proportion of deficit enterprises. In 1982, the phenomenon of deficit enterprises should be virtually eradicated. Not to make up the deficits means continuation of the consumption of socialism, and it means no good readjustment has been made. Those deficit enterprises unable to reverse matters during the next few years should, on the basis of their different circumstances, be shut up, closed down, merged, or converted.

The profit-making agriculture and land reclamation enterprises that amount to 60 percent of the total number should summarize experiences, formulate practical and effective measures, and make full use of their manpower, equipment, and resources to advance deeply and broadly in production. Serious attention should be given to readjustment and restructuring work for those deficit units and deficit projects within profit making enterprises for further increases in the level of profits.

Responsibility Credited for High Output

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 4 1981 p 16

[Article by Special Correspondent Yu Liren [7411 6849 0086]]

[Text] Expansion of self-determination in enterprises, and institution of various forms of a system of responsibility for production has brought about a heartening scene for the agriculture and land reclamation system in Ningxia. Despite an 89,000 mu decline over the previous year in the grain crop area during 1980 on 14 state agriculture and pasture farms throughout the region, total output increased by 7 percent over the previous year to reach an all-time high. Oil seed crops overfulfilled plan by 46 percent, a more than fivefold increase over the previous year to create an all-time high as well.

Thirteen out of 14 agriculture and pasture farms had double increases in production of both grain and oil, except for one farm whose grain production declined. At the Lingwu, Lianhu, Balanghu, Nuanquan, and Qianjin farms every production team realized increased output of grain and oil.

In 1980, the Agriculture and Land Reclamation Bureau changed its former high quotas and extremely inflexible methods, the bureau handing down to farms only production quotas, quantities to be surrendered to the state, and profit and loss quotas. Acting under the guidance of these planned quotas, each farm was free to grow as much as it could and in the way it could, the farm itself deciding, as well, its crop distribution patterns, the matching of varieties, and management methods on the basis of realities. Pingjibao, and Quanjin farms retrenched their grain growing areas, taking out of grain production some land that was prone to drought or was highly alkaline, and expanding the area planted to oil seed crops, thereby both providing the state oil seed crops, decreasing costs, and increasing earnings.

Along with expansion of the self-determination of enterprises, the entire system also instituted different forms of a system of responsibility. The bureau instituted fiscal contracting for work with farms, guaranteeing no change for a period of 3 years. The farms instituted contracting for fixed quotas with their production teams, with rewards and penalties for overfulfillment or underfulfillment. Production teams instituted quotas for teams and placed responsibility on individuals, calculating workpoints on the basis of fixed quotas, and using workpoints as the basis for calculating rewards, also signing economic contracts at every level. For some small segments of farm work and care of small amounts of economic crops such as care of melons and vegetables, fruit orchards and livestock herds, and farmwork such as ridging, trickling of water, weeding, and harvesting, they instituted a system of responsibility of specialized contracting with "a team," and contracting for small segments of work with individual workers. They instituted systems of responsibility of various kinds, linking economic results with individual material benefits to change the situation of holding out an "iron rice bowl," and eating together from a "large common pot of rice," to produce a new atmosphere in which everyone was concerned about losses and profits, and careful calculations were made everywhere.

Building Small Hydroelectric Power Stations

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 5 1981
p 9

[Text] Guangdong Province agriculture and land reclamation area hydroelectric construction has fairly good achievements. In 1980, the reclamation area built and put into operation 15 small hydroelectric stations of above 40 kilowatts, with a total of 23 generating units, for a newly installed capacity totaling 6,664 kilowatts, a 1.12 fold increase over 1979, making 1980 the all-time high year for capacity installed. Now, the entire reclamation area has built and put into operation a total of 240 hydroelectric stations with a total installed capacity of 22,100 kilowatts, the amount of electricity generated amounting to one-third the total for the reclamation area to become a major integral part of the reclamation area's electric power industry. There are 15 small hydroelectric stations currently under construction with a designed installed capacity of 4,760 kilowatts. In 1980, newly added installed capacity was more than 600 kilowatts at the Jiachai, Dafeng, Yangjiang, Taiping, and Xiqing farms. Throughout the reclamation area, 15 farms have small hydroelectric stations with an installed capacity of more than 500 kilowatts, and at five farms it exceeds 1,000 kilowatts, providing electricity for 75 percent of production teams.

Small hydroelectric stations in the Guangdong Reclamation Area are dotted over a wide area like stars in the sky. They can provide electricity to mountain area farms, creating conditions for the electrification of illumination, the mechanization of rubber, processing of tropical economic crops, and agricultural byproducts, and the promotion of the development of agricultural production. At the Nanlin Farm in the eastern mountain region of Hainan Island, the small hydroelectric station had an installed capacity of only 45 kilowatts prior to 1974, and the entire farm depended on a small thermal electric plant for its electricity needs. In recent years, the farm has made full use of the water energy resources in the mountain area in vigorous development of small hydroelectric stations. Between 1975 and 1980, it built four hydroelectric stations of more than 100 kilowatts with an installed capacity of 1,135 kilowatts. They annually generate 2.5 million kilowatts of electricity for an annual saving in petroleum of 650 tons for a reduction in costs of more than 400,000 yuan. More than 200 pieces of power processing equipment, and more than 85 percent of production teams on the farm use the electricity. Formerly the Xiqing Farm had to pay 13,000 yuan monthly to the local electric power department. Last year, however, the farm's Yala River No 1 Hydroelectric Station generating unit was built and went into production to assure the electricity needs of the entire farm. Excess electric power is put on the electric grid. In this way, not only is a large saving in petroleum effected, but electricity payments of 13,000 yuan monthly are recovered.

In the development of small hydroelectric power stations, many units follow the procedure of building a single site, managing a single site, and making good use of a single site, thereby gradually consolidating small electric power generation, steadily increasing the utilization rate of the equipment and the number of hours electricity is generated annually to provide ever improving quality of electricity. At the Nanlin, Nanping, Dafeng, Xilian, and Nanmao farms, where small hydroelectric stations are fairly numerous, electricity management organizations have been set up for unified management of generation, supply, and use of electricity, use being made of every kilowatt hour of electricity.

Collective, Individual Economies on State Farms

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 5 1981 pp 11-12

[Text] Two articles have been published in the special column titled, "Exploration of Farm and Reclamation Economic Problems" in this issue. One of the articles discusses farm operation of a collective economy, and the other discusses household sideline occupations of farm employees.

Is a collective economy and an individual economy allowed to develop within a state farm? State farms are an economy under ownership of all the people, so is it better to run a homogenous economy under ownership of all the people, or is it better, under conditions in which the economy under ownership of all the people is absolutely dominant, to permit the development of a collectively owned economy and an individual economy, operating a heterogeneous varied economy? There is controversy about this in practice.

During a visit to a forest area in the northeast in 1962, Comrade Liu Shaoqi noted that there was no need for homogeneity, but that there should be heterogeneity. However, under the influence of the "leftist" mentality of the time, Comrade Liu Shaoqi's correct ideas were criticized as wrong. During the 10 years of catastrophe, in particular, the collective economy within state farms was subject to all kinds of restrictions, and the individual economy was cleaned out entirely. Non-staple food supply to employees, service trades, and employment of males and females coming of age were all handled by the farms, and this resulted in a passive situation that hampered the lives of employees, caused difficulties in finding employment, and increased expenditures by the farms.

Ever since the Third Plenary Session of the 11th Party Central Committee, numerous comrades have come to realize that diverse economies should be allowed to exist within the state farms, that the dependents, and sons and daughters of employees should be organized to operate a collectively owned system, and that a free hand should be given development of employee household sideline occupations and household livestock raising. Operation of suitable individual businesses by dependents, sons and daughters, and retired employees should also be permitted and supported, ect. Naturally, this is a matter of economic policy, and different views exist on this issue. We are planning to publish a series of investigation reports and conduct some discussion in this periodical on questions about the collective economy and the individual economy within farms, making use of opinions from all sources to gradually form a rather unified view. It is hoped that farm management units, economic research units, and the broad masses of employees everywhere will be concerned and participate in this discussion.

Why Run a Collective Economy?

(1) Development of the objective situation forces us to run it.

Our state farms are not only an agricultural economic unit under the ownership of all the people, but also a relatively independent and complete society. In 1980, the problem of jobs for the workforce reached the point where something just had to be done about it. Mostly after large groups of educated youths had returned to cities, when some were recruited in order to maintain production, as soon as the doors were opened, people came running. As of May 1979, at the Qinglongshan Farm in Heilongjiang Province, in addition to the 3,217 employees, their family dependent workers had increased to 473, and relatives and friends of employees to 853. These plus the sons and daughters of employees brought the total social labor force to 1,326 people. Prior to 1979 these people were put to work at temporary jobs by the farm, but in 1979 after the farm instituted fiscal contracting for work, a problem appeared when the policy of simply taking care of them could no longer be followed. In order to solve the problem of employment for these more than 1,000 people, we began to run a collective economy.

(2) It is necessary to run it in order to improve the administration and management of farms.

In 1979 there were very many holes in the management of wages. Labor was used recklessly at great cost, and the total amount by which wages for the year exceeded the plan of 530,000 yuan amounted to the profit figure for the entire farm. Of the total, wages for temporary labor exceeded 400,000 yuan. On the other hand, the eating of "food from a large common pot," also created great losses. Because management did not keep apace in the animal husbandry industry, and because there was no sense of strong responsibility, losses ran to 160,000 yuan. Because no one managed corn and miscellaneous grains other than wheat and rice, and because farming was done in a slapdash way, year after year there was no harvest from planting, and annual losses amounted to more than 100,000 yuan. Therefore, organization of idle surplus people, and institution of specialized contracting with personal responsibility for profits and losses was imperative.

(3) Improvements in Employees' Lives Also Required Operation of the Collective Economy

As agricultural production develops, the lives of employees should steadily improve and increase. However, because we did not pay sufficient serious attention in the past, numerous debts are owing, and housing and road conditions are very poor. In the supply of some items for living, many things are lacking such as white spirits, beancurd, and soy sauce. "Guarding a wine shop but having no wine to drink, sitting on a pile of beans but hungering for beancurd, buying vegetable seeds in spring only to have to buy vegetables in the fall, growing vegetables year after year yet having no vegetables to eat, and going 100 li to get some soy sauce." Many of these circumstances could be solved by running a collective economy.

How We Run a Collective Economy

The collective economy we operate is under the leadership of the farm. The basic means of production are still owned by the farm. They form contracts with the farm, and institute specialized contracting with personal responsibility for profits and losses. Everything they do must serve the farm's production life; all production plans are made a part of the farm plan, and the farm is given a fixed proportional management fee.

(1) Organization Methods: The farm has set up a collective economy office specifically for the handling of this work. Each unit has one cadre in charge of the collective economy. Collective economy leaders are selected through democratic means and reported for approval to the farm's collective economy office. Conditions for participation are that one must be a dependent of a farm resident, a son or daughter, or some other able-bodied person. Financial affairs are under the control of accountants in each unit. All who do not participate in the collective economy organization will not be hired by any unit without exception.

(2) Operations: Mostly farming, plus some other things that serve production life. In agricultural production units, depending on the number participants, each person is apportioned 20 mu of land on which corn, miscellaneous grains, melons and vegetables, economic crops, and some soybeans, but no wheat may be grown. Mostly one farms and cares for the land himself, farming being done by a substitute when necessary. One may also contract the raising of livestock, contract the planting of saplings, plant trees for afforestation, or engage in team work during the busy season in agriculture.

Industrial sideline occupation units and farm personnel may, in addition to contracting the planting of melons and vegetables, also operate sideline occupations, contract for the building of project, or break rocks to repair roads.

(3) Economic Policies: Carrying out specialized contracting, independent accounting, personal responsibility for profits and losses, and the principle of to each according to work. At the time distributions are made, withholdings must be made first and distributions then made, meaning the withholdings of sufficient to pay taxes, expenses for substitute farming, loans, and ordinary advances, followed by withholding of public accumulation funds and public welfare funds, each at a 5 percent rate, and 12 percent for management fees (50 percent going to the farm and 2 percent being turned over to the unit acting for the farm in management), and finally a distribution of profits.

Strict carrying out of price policies, principal products being uniformly purchased by the farm, the remaining products being freely marketed once plan has been fulfilled.

By way of supporting the collective economy, the farm will loan production funds for seeds, fertilizer, and tools, and will advance 0.80 yuan and 1/2 jin of grain for each day a person works.

Initial Effectiveness and Knowledge Gained

In 1980, our farm organized a total of 24 collective economic organizations in which 1,050 people were participants. They planted 11,000 mu to grain and beans, harvesting 2 million jin of grain and bean. They planted 2,750 mu of vegetables for an output of 1,550 tons of vegetables. They raised 833 pigs for a farm livestock income of 430,000 yuan. Income from the building of houses, quarrying of stone, repair of roads, making of alcoholic beverages, capital construction, and industrial sideline occupations totaled 109,000 yuan. In addition, earnings per workday in support of production teams (the farm paid from 1.6 to 1.8 yuan per person used) brought total earning to 613,000 yuan. After deductions of accumulation funds, benefit funds, and management expenses, net distributions amounted to 478,000 yuan, or an average distribution of 455.80 yuan per capita for the period March to October, a monthly wage of 56.98 yuan.

In the running of the collective economy, four satisfactions were achieved. The first was that those who engaged in collective production were satisfied. Their livelihoods were assured, and their incomes rose. Second, leadership cadres on all echelons were satisfied. Because the collective economy organizations had leaders and organized things, and because of the conscious contracting, cadres had a lot fewer worries. Third, the employees were satisfied. Both family members and relatives and friends now had satisfactory positions and definite incomes.

Family life improved markedly. Additionally, this group of people did not participate in year-end distributions of awards in production teams, so in 1980, each worker averaged an additional reward of 50 yuan. Fourth, the farms were satisfied. As a result of the organization of the cooperative economy, in 1980 the farms either realized savings in expenditures or increased income by 960,000 yuan, or one-fifth the total profits for the year.

Household Sideline Occupations

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 5 1981 pp 13, 7

[Article from Shihezi Municipal Economic Research Office, Xinjiang]

[Text] 1. Present State of Farms Involved in Household Sideline Industry

As a result of study and implementation of the spirit of the two documents from the CCP Central Committee on hastening the development of agriculture since the Third Plenary Session of the 11th Party Central Committee, the number of farms involved in household sideline industries has steadily increased. They are generally of the following several categories:

One is the family livestock raising industry, including the raising of hogs, sheep, rabbits, chickens, and ducks. Hog raising is most common, and hog raising is subdivided into two types. One is a system where farms, in order to assure delivery to the state of commodity pork and to assure pork for farm employees' personal consumption, have company size units raise commodity pork, and have the families of employees raise pork for personal consumption. The farm sells shoats and feed to the families of employees for the portion that they will raise. After the hogs have been slaughtered, the employees consume them themselves, the farm supplying no further meat. Any amount in excess of personal consumption needs may be sold to the farm at the national list price. The other way is to undertake no task for the farm or, in addition to the task, to buy shoats and feed by oneself and raise the hogs, handling the products oneself after slaughter. Raising chickens is also very common, and almost every family raises them, consuming the products themselves or selling a portion in the free market.

Second is the farming industry, the planting industry, and the gathering industry. Not counting the collectively organized May 7 dependents corps' farming tasks, the scant vegetables or the few trees grown in front or behind the houses of employees families alone are generally not commodities and provide no income. A small number of people also grow castor-oil plants and Chinese medicinal herbs. Family planting consists principally of use of willow branches to plait small baskets, or the use of corn husks to plait different kinds of baskets, extremely few of which are sold in markets. The gathering industry depends primarily on employees of company size units near mountain forests who use their days off to collect medicinal materials and mushrooms in the mountains. However, because of its conditional and seasonal nature, this is not common.

Third is individual small industries or businesses of a service nature. Running of small eateries, for instance, is supported by the farm with sales of wheat flour and vegetable oil. Additionally there are barbering, sewing, shoe repair, watch repair, bicycle repair, making of fine dried noodles, beancurd making, photography, embroidery, needlework, secret recipes handed down from generation to generation for curing illnesses, popping corn, and making cotton candy.

2. Understanding Farm Employee Family Sideline Industries

The Central Committee of the CCP noted with regard to the two documents on agriculture that people's commune member's family sideline industries are a necessary supplementary part of the socialist economy. This formulation fully applies to state farms. In terms of their economic form, farm employee household sideline occupations must belong in the category of simple commodity production; however, in terms of production relationships, they differ in nature from simple commodity production under conditions of private ownership. They are not products of a system of private ownership, but an economic component existing in the state owned economy whose characteristics are manifested in: (1) those workers engaged in household sideline industries are members of the farm; only an extremely small number are individual producers; (2) most of the time of employees is devoted to productive labor on the farm; running of household sideline industries can only be done in spare time or through the use of supplementary labor in the family; (3) the living expenses of employee's families derive principally from wages. Their grain, oil, and major staple and non-staple foods are provided by the state; family sideline industries are only a supplement; (4) the activities of employees engaged in family sideline industries and the disposition of surplus products must abide by the farm's labor discipline and the state's policies and laws. From this it may be seen that by their economic nature, employee household sideline industries are an integral part of the socialist economic system, and are a "supplement" to the socialist economy. When Lin Biao and the "gang of four" were on the rampage, they termed a little sideline industry performed by farm employees as "taking the capitalist road," creating extreme confusion in ideology and in theory. Now it is necessary to clarify understanding and vigorously support employee development of household sideline industries.

Permitting development of farm employee household sideline occupations can allow full advantage to be made of the production capacity of surplus labor, can help develop production, increase earnings, and improve the people's lives. In the case of hog raising, for example, formerly all pork for consumption by employees was the province of the regiment for supply, and annual losses were very great. In 1979, losses on pork for consumption were 370,000 yuan. In 1980, losses from this quarter no longer existed, and each employee's annual pork consumption rose from the 6 kilograms of the year before to 12 kilograms.

Experience has shown that permitting and supporting farm employees to develop household sideline industries is a necessity in the objective realities of state farms. It is in line with production relationships and will definitely suit the nature of productivity, this objective economic law. It is advantageous to the country, to the unit, and to the individual.

3. In developing farm employee household sideline industries, the following several relationships must be handled well: (1) The relationship between "principal" and "ancillary". Farm employees must stick to their jobs and observe labor discipline, completing their work assignments within the stipulated time. This is the employee's "principal job." On this basis, use of extra time to undertake household sideline production activities with the help of labor in the family should be permitted. Excessive interference and restriction is not necessary. (2) The relationship between employee household sideline industries and sideline industries operated by the farm. Employee household sideline industries and farm operated sideline industries are the "two legs" of farm sideline production, and one cannot be emphasized at the expense of the other. Plans must be made with consideration given all factors concerned, suitable regulation done, and handling done properly. (3) The relationship between "liberalization" and "control." With the liberalization of policies by the party, employee household sideline industries have developed, the markets in city and countryside have become enlivened, and under these circumstances, it would be hard to avoid having some people exploit advantages for their own benefit and cause disturbances from within. Consequently, it is necessary to intensify control over labor and control over markets.

In the development of household sideline industries, some problems meriting attention have also appeared. For example, farm employees have bought between 40 and 50 motor vehicles. The employees use these vehicles to haul things for their businesses. This must inevitably affect their participation in the farm's collective production, and it must be halted and suppressed at the present stage. Motor vehicles already privately purchased must be handled in a satisfactory way.

Improvement in Living Conditions

Beijing ZHONGGUO NONGKEN [CHINESE AGRICULTURAL RECLAMATION] in Chinese No 5 1981 p 14

[Text] Under the guidance of the spirit of the Third Plenary Session of the 11th Party Central Committee, and along with growth in industrial and agricultural production and various economic construction endeavors, the standard of living of the 900,000 employees of the Xinjiang agriculture and land reclamation system has generally risen.

First of all, earnings have increased. Funds allocated for wages and as heating subsidies throughout the reclamation area last year, plus the total of 180 million yuan released as awards of various kinds, has meant an average increase in income to employees of 200 yuan per capita. Some regiments have exceeded this level.

Second has been improvement in living conditions. Last year the area used state funds and funds contributed by enterprises themselves to build a total of 737,500 square meters of workers dormitories, an average increase of 0.82 square meters per worker. The newly constructed worker's quarters are mostly of brick and wood construction, and are spacious and bright. Workers on some farms in the Bayingoleng Mongol Nationality Autonomous Zhou have moved into new houses where the area per dwelling averages somewhat more than 50 square meters.

Third, is an abundance of staple and non-staple foods. The proportion of fine grains [wheat or rice] in the diet of farm workers has risen from 20 to 30 percent to 50 percent. As the Shihezi reclamation area, it has also risen to 70 or 80 percent, and in some regiments it has risen to more than 90 percent. The supply of edible oil in many units has risen from 1 or 2 liang per month to from 5 liang to 1 jin or more. Meat supplies have also taken an obvious turn for the better, and this plus permission for workers to develop household sideline industries, raising poultry and livestock, has meant greater diversity of non-staple foods for workers.

Fourth is the development of welfare endeavors. Since last year, quite a few farms have built open air motion picture theatres and workers clubs. Some have built libraries and baths, and have surfaced roads with asphalt within the farms. Numerous out-of-the-way farm employee's families have erected wired broadcast facilities. Statistics show that funds used last year throughout the reclamation area for improvements in collective welfare facilities amounted to 40 million yuan, an average 45 yuan per worker.

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CSO: 4007/473

BRIEFS

AGRICULTURAL ANNALS—Beijing, 18 Jul (XINHUA)—"Annals of Chinese Agriculture 1980," the first agricultural annals published in China since its founding, will soon be off the press. Published by the Agricultural Publishing House, this annals, which totals approximately 1.2 million words, contains a number of important statistical figures for the past 30 years on agriculture, forestry, state farms and reclamation, farm machinery, water conservancy, aquatic production and meteorology. In the section "30 Years of PRC Agriculture," a series of articles about the accomplishments, major experiences and lessons of China's agricultural production are published. The annals also reflects China's agricultural progress and development of socialist new villages in recent years is also reflected in the sections "Important Agricultural Documents, Legislation and Regulations," "Agricultural Policies and Administrative Measures," "Agricultural News Reports and Press Commentaries" and "Agricultural Work Conferences and Agricultural Professional Conferences." [Beijing XINHUA Domestic Service in Chinese 0018 GMT 18 Jul 81]

FIRST VIRAL INSECTICIDE—Beijing, 21 Jul (XINHUA)—A viral insecticide which kills the bollworm, the moth larvae that feeds on and destroys cotton and 30 other crops, is being trial-produced by the Wuhan Institute of Virology under the Chinese Academy of Sciences. This is part of an effort by China's scientists to study biological control of insects, said a source at the academy's department of biology. China now uses chemical insecticides to control most insect pests. Because the chemicals can cause serious environmental pollution, research on biological control is being emphasized in China's institutes. Scientists at the Institute of Virology incubated bollworm eggs and bred the larvae under laboratory conditions. They then extracted the virus from the dead larvae. To this, they added an ingredient which attracts the live bollworm. Scientists began this research five years ago and the present production is China's first viral insecticide. Tests for noxiousness and etiology of the new insecticide have been done on guinea pigs, domestic rabbits, chickens, doves, bees, silk worms and gold fish. These animals showed normal growth and no abnormal pathological changes after exposure. Check-ups of personnel engaged in this work for years reveal no physical hazards. The viral insecticide was applied to 660 hectares of cotton fields at Jianghu farm in Hubei from 1976 to 1979 and tests were run in 1980 in 20 localities in 13 provinces and municipalities. Compared with a dozen regular chemical insecticides, the effect of the viral insecticide was much superior. [Text] [Beijing XINHUA in English at 0206 GMT 21 Jul 81]

NATIONAL SUMMER WHEAT MEETING--Between 25 and 30 March, a national academic discussion meeting on ecological and physiological research on summer wheat was held at Yuci City in Shanxi Province under the joint auspices of the Ecology Research Center of the Chinese Academy of Sciences and the Crop Genetics Institute of the Shanxi Provincial Academy of Agricultural Sciences. A total of 57 delegates from agricultural research units in 11 provinces and municipalities (or prefectures), and units concerned in academic institutions attended the meeting. The meeting received 25 research reports. Ma Shijun [7456 0013 7486], director of the Ecology Research Society and preparatory organizing head of the Ecology Research Center of the Chinese Academy of Sciences, sent a congratulatory letter to the meeting. Fifteen comrades made speeches at the meeting. Acting in a spirit of "let a hundred schools of thought contend," delegates to the meeting spoke freely in full expression of academic democracy, expressing views from the standpoint of different academic disciplines on the thrust of summer wheat research. The meeting acknowledged that from both the standpoint of production experience, and from the standpoint of basic theoretical research, the launching of ecological and physiological research work on summer wheat is of major significance. [Text] [Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5 May 81 p 1] 9432

CSO: 4007/469

BRIEFS

EARLY RICE--As a result of fine field management work, Anhui Province's more than 10 million mu of early rice are growing very well, promising a bumper harvest of rice for 1981. At present all localities in the province are making preparations for the harvesting tasks. [OW221937 Hefei Anhui Provincial Service in Mandarin 1100 GMT 18 Jul 81]

YUEXI COUNTY PROGRESS--Yuxi County, Anhui, has made great achievements in socialist construction since the founding of the people's republic. By 1980, the county had built 67 small and medium-sized reservoirs, 16 irrigation pumping stations, putting more than 124,000 mu of farmland under effective irrigation, and leveled or improved more than 100,000 mu of land. The county also had by 1980 acquired more than 550 small and medium-sized tractors and a number of large tractors and trucks for agricultural use. The county's total grain output in 1979 was 2.5 times that in 1949. The county had no road more than 3 feet wide in the past. Now, 34 highways with a total length of 465 km have been built. The county has built 153 small hydroelectric power stations with a total installed capacity of 5,082 kilowatts. There are now more than 80 factories in the county, including farm machinery, smelting, cotton textile and paper factories. In 1980, the industrial output value of the county was over 16.65 million yuan. In 1949, there was only one middle school with an enrollment of 290 in the county. In 1981, there are 10 middle schools and 38 junior middle schools. [OW261309 Hefei Anhui Provincial Service in Mandarin 1100 GMT 22 Jul 81]

CSO: 4007/528

GANSU

BRIEFS

WHEAT HARVEST--Lingtai County, Gansu Province, reaped a bumper harvest on its 450,000 mu of wheat fields this year. According to statistics, its output will be over 80 million jin, doubling 1980's figure. The per capita share will be about 300 jin. [SK260514 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 25 Jul 81]

CSO: 4007/528

FAVORABLE REPORT ON PEASANT LIFE IN GUANGDONG REPORTED

Hong Kong ZHONGGUO XINWEN in Chinese 19 Jun 81 p 1

[Article: "Guangdong Provincial Chinese People's Political Consultative Conference [CPPCC] Deputy Chairman Zuo Hongtao [1563 3163 3447] Says Current Guangdong Rural Village Situation May Be Termed 'New Golden Age'"]

[Text] Guangdong peasants term the present situation in rural villages a "New Golden Age." This was the fundamental view obtained from a report back on a rural situation survey made to the provincial CCPCC Standing Committee Meeting, convened on 12 June by Guangdong Provincial CPPCC Deputy Chairman Zuo Hongtao.

The Guangdong Provincial Committee of the CPCC organized a group of CPPCC members in May to go to villages, cities, and towns to gain an understanding of agricultural and industrial readjustment work. Four rural investigation teams headed by Provincial CPPCC deputy chairmen, Liao Siguang [1675 0138 0342], Ceng Tianjie [2582 1131 4634] and Chen Yilin [7115 0122 2651], and deputy secretary Chen Zhiqi [7115 1807 2601] visited 29 communes, 23 production brigades, and 14 production teams and visited some peasants' homes in Qujiang, Renhua, and Nanxiong counties in northern Guangdong, Yangjiang and Yangchun counties in western Guangdong, Gaohe and Xingmei counties in central Guangdong, and Xingning and Wuhua counties in the mountains of Guangdong.

Zuo Hongtao said that the impression we obtained was that the rural situation is very good, or as the peasants say, "This is the third golden age." They term land reform the first "golden age," and the 5 years from 1962 to 1965 the second "golden age." The visiting inspection teams believe that the outstanding symbols of this "golden age" in Guangdong rural villages are increased agricultural output, increased peasant earnings, lively markets, improved living, peace of mind, and high enthusiasm for production. The two mountain region counties of Xingning and Wuhua, despite floods and droughts last year, had increased grain outputs totaling more than 5 million jin and more than 80 million jin respectively. Output of economic crops such as peanuts, tea, and mushrooms showed fairly large increases, and new growth took places in forestry, sideline industries, and the livestock industry. In Qujiang county last year, peasant distributions of consumption grain and cash showed average increases over the previous year, and individual peasant savings increased by 20 percent over the previous year.

These four visiting inspection teams noted in their reports of investigation that the main reason for the emergence of such a fine situation in rural Guangdong this year were gradual elimination during the past several years of the influence of "leftist" thinking, readjustment of the agricultural structure, implementation of rural policies, and arousal of the production initiative of the peasants. Provincial CPPCC committee members participating in the investigation teams made known their ideas and recommendations on some new problems now existing in rural villages.

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CSO: 4007/504

BRIEFS

GRAIN CONFERENCE--The Guangdong provincial conference of grain bureau directors stressed that grain departments at all levels should pay attention to studying the new situation in the rural areas, solving new problems and implementing the grain policy so as to do a good job in procuring summer grain. Since the beginning of 1981, Guangdong has readjusted the proportion of procurement and surplus procurement, and has fixed the task of procurement for the coming 3 years. Various types of production responsibility systems have been practiced in the rural areas and the workload of storing grain in granaries is becoming heavier and more difficult. In carrying out summer purchases, we should do a good job in accounting. Since the task of summer grain procurement is very heavy, a good policy is required. Cadres of grain departments should understand these new situations and change their work styles so as to do a good job in procuring summer grain to the state. [HK030929 Guangzhou Guangdong Provincial Service in Mandarin 1000 GMT 21 Jun 81]

FOSHAN PREFECTURE FLOOD--Party organizations at all levels and the people's government of Foshan Prefecture promptly organized cadres and the masses to drain flooded fields and fight natural calamities, restore production and make up what was lost. Since 29 June until 1 July, there was heavy rain in all localities of Foshan Prefecture. Throughout the prefecture, 1.74 million mu of early crops, 120,000 mu of sugarcane, and 100,000 mu of peanuts were flooded; 700,000 mu of fish ponds were flooded and more than 1,000 villages were flooded. Many dykes and conduits were washed away. Four work teams were formed by agricultural, industrial, transport, water conservancy and financial departments; the responsible comrades went down to Kaiping, Enping, Zhongshan, Xinhui and Gaohe counties to help the local cadres and the masses fight floods. To promptly restore production after the natural calamity, Foshan prefectural CCP Committee convened an emergency telephone conference on the evening of 2 July. [HK110712 Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 3 Jul 81]

AIRCRAFT FOR AFFORESTATION--Two civil airplanes were used to sow forest tree seeds on more than 226,000 mu of bare mountains in Dan and other counties on Hainan Island between 22 and 29 May. They flew more than 60 sorties, overfulfilling the original afforestation plan by some 26,000 mu. [Guangzhou GUANGZHOU RIBAO in Chinese 8 Jun 81 p 1]

BUMPER COCOON CROPS--In the wake of last year's increased output, another bumper output was harvested this year from Guangdong Provinces first and second silkworm cocoon crops. Output totalled more than 131,800 dan, a 20 percent increase over the same period last year, the increase in output being 4.37 percent from the first crop. Beginning last year, Guangdong Province instituted a policy of awards for overfulfillment of cocoon production, and peasant enthusiasm for the growing of mulberry and the raising of silkworms has increased. New silkworm growing areas of Huazhou, Dongguan, and Zengcheng have readjusted their patterns of agricultural production, actively enlarging the area of mulberry plantings without impairing grain production. As of now, mulberry has been expanded over 40,000 mu throughout the province, 28,000 mu of it is spring mulberry, making it the year of the largest mulberry area since the founding of the People's Republic. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 22 Jun 81 p 2] 9432

CSO: 4007/504

BRIEFS

SILKWORM COCOON PROCUREMENT--Between January and May this year, the Guangxi region procured 9,858 dan of silkworm cocoons, 25.6 percent more than in the corresponding period of last year. The region has better natural conditions for planting mulberries and breeding silkworms than other places. [Nanning Guangxi Regional Service in Mandarin 1100 GMT 17 Jun 81]

SUGARCANE PRODUCTION--Since the 3d plenary session of the 11th Central Committee, Nanning has steadily developed the production of sugarcane. In 1980, there were 1.67 million mu of sugarcane growing in the region, with an output of 427,000 tons, an increase of 147,000 tons compared with the record in 1973. In 1981, the growing area of sugarcane increased by 20,000 mu over that of 1980. The climate of Guangxi is favorable for growing sugarcane. In the past few years, the regional CCP Committee and the people's government have stipulated a series of policies to promote sugarcane production. In May and November 1980, the regional people's government decided that sugarcane production should be linked up with grain production so as to increase the income of the peasants. Meanwhile, various kinds of responsibility systems have been established, which have in turn aroused the peasants' enthusiasm in growing sugarcane. Since the beginning of 1978, bases for sugarcane production have been set up in 108 communes, 523 brigades and 7,454 production teams. The establishment of these bases is advantageous to the implementation of policies and the promotion of advanced technology. [HK180947 Nanning Guangxi Regional Service in Mandarin 1100 GMT 22 Jun 81]

GRAIN DRIER SYMPOSIUM--On 18 and 19 June, the Guangxi Agricultural Machinery Bureau held an on-the-spot symposium of prefectural, municipal and county agricultural machinery bureau directors in Nanning on the popularization of grain driers. During the meeting, the representatives visited a grain drier in Yongning County. Xiao Han, regional CCP Committee secretary and (Wei Yiren), vice chairman of the regional agricultural committee attended the meeting and listened to the opinions of the masses on the grain drier. The damp weather in Guangxi very often causes rotting and germination of grain. To cope with the problem, since the beginning of 1978, the Chinese Agricultural Machinery Research Institute and Baise Prefectural Agricultural Machinery Research Institute have jointly trial-produced the 5-HE 25 S model and 5-HE 25 Y model grain driers. The grain driers have proved to be effective and will be widely used. [HK180840 Nanning Guangxi Regional Service in Mandarin 1100 GMT 22 Jun 81]

FISHERY DEVELOPMENT--Output of aquatic products in Guangxi region in 1980 was some 2.227 million dan, some 5 times greater than in 1950. The area devoted to fisheries in the region is some 150,000 kilometers and the area of beaches which can be used to breed fish is 1.17 million mu. The water surface of the rivers which can be used to breed fish is some 1.8 million mu. In 1980, the region bred some 2.59 billion fry. The region has built 8 freshwater fish bases, which produced some 95 million dan of fish commodities in 1980. [HK180840 Nanning Guangxi Regional Service in Mandarin 1100 GMT 29 Jun 81]

SOW, PIGLET BREEDING--Guangxi's rural areas have vigorously developed sow and piglet breeding. In the first quarter of this year, the number of sows kept in sties in Guangxi reached more than 634,000, an increase of more than 74,000 and up 13.26 percent compared with the same period of last year. To encourage collectives and commune members to breed sows, and in accordance with the spirit of the relevant documents of the central authorities and the practical situation in Guangxi, the Guangxi regional CCP Committee and the regional people's government formulated and implemented the policy and measures on developing sow breeding. For every sow raised by the commune members, the production team allocates an area of fodder plots equivalent to that for raising two pigs. Commune members who sold one or two litters of piglets in the village trade fairs last year will be exempted from the task of delivering one pig to the state. In addition, when the price of piglets in the village trade fairs falls below the stipulated price, the state foodstuffs departments will procure them at the stipulated price, thus protecting the interests of the commune members. [Nanning Guangxi Regional Service in Mandarin 1100 GMT 25 Jun 81]

WATER CONSERVANCY PROJECTS--Since liberation, Guangxi region has completed some 320,000 large and small water conservancy projects for agricultural purposes, some 80,000 of which are large and small reservoirs and ponds for storing water. Their total capacity is some 20 billion cubic meters. The installed capacity of electric irrigating and sprinkler irrigating projects is 550,000 horsepower. The region has some 12,000 hydraulic pumps and has repaired and built channels comprising a total length of some 48,000 km. The area of farmland with guaranteed irrigation irrespective of drought and floods at present is five times larger than in the initial period of liberation. With the substantial development of water conservancy projects, the region has greatly promoted agricultural production. The region's total output of grain in 1980 was 5.75 times greater than in 1950. The per capita grain output was 673 jin. The region's total output of sugarcane in 1980 was 9.4 times more than in 1950. [Nanning Guangxi Regional Service in Mandarin 1100 GMT 6 Jul 81]

CSO: 4007/528

BRIEFS

CHEMICAL FERTILIZER OUTPUT--Guizhou Province has used rich local deposits of phosphate, sulfur, and coal for active development of a chemical fertilizer industry, and now more than 60 large, medium, and small chemical fertilizer enterprises have been built throughout the province, chemical fertilizer production capacity standing at 2 million tons. Guizhou Province's front ranking producer of nitrogenous fertilizer, the Jianjiang Chemical Fertilizer Plant, a medium size enterprise, and two phosphate fertilizer producing enterprises, the Guiyang Hongyan Chemical Plant and the Zunyi Phosphate Fertilizer Plant, were built in 1958. Subsequently, a further group of medium and small phosphate and nitrogenous fertilizer enterprises were built in a planned way to bring about rapid growth of chemical fertilizer output. Up until 1964, Guizhou's chemical fertilizer output was less than 30,000 tons, but by 1966 it had increased to 210,000 tons. In 1978, the Guizhou Chishui Natural Gas Chemical Fertilizer Plant was built and put into production, and the province's chemical fertilizer output increased to 730,000 tons, exceeding 1 million tons in 1979. In 1980, it reached 1.49 million tons. Guizhou Province has given much attention to development of the local chemical fertilizer industry. Now two-thirds of the counties in the province have small chemical fertilizer plants, and their annual outputs amount to 40 percent of total chemical fertilizer output in the province. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 26 Jun 81 p 3] 9432

CSO: 4007/504

FARM INPUT, OUTPUT IN TIANJIN SUBURBS DISCUSSED

Tianjin TIANJIN RIBAO in Chinese 27 Jun 81 p 1

[Summary] Since liberation, farm input and output in the suburbs of Tianjin Municipality have increased as follows:

Input:

1. Large and medium-sized tractors from 4 in 1953 to 12,819 in 1980.
2. Percentage of farmland plowed by tractors from 0.1 percent in 1953 to 84.1 percent in 1980.
3. Average amount of electricity used per mu of farmland from 1 kilowatt-hour in 1950 to 96 kwh in 1980.
4. Average amount of fertilizer per mu from 1 jin in 1950 to 79 jin in 1980.
5. Percentage of farmland with good irrigation from 9.2 percent in 1949 to 81.7 percent in 1980.

Output: (1949 and 1980 figures in all cases)

1. Grain production from 465 million jin to 2.755 billion jin.
2. Oilseed production from 3.49 million jin to 55.75 million jin.
3. Vegetable production from 530 million jin to 2.234 billion jin.
4. Live pigs at year-end inventory from 126,200 to 1,009,600.
5. Sheep at year-end inventory from 39,900 to 363,300.
6. Large animals at year-end inventory from 143,900 to 211,000.
7. Aquatic products from 16,300 tons to 32,100 tons.

The gross value of agricultural products rose from 149 million yuan in 1949 to 1.498 billion yuan in 1980.

CSO: 4007/527

BRIEFS

TIANJIN AGRIPRODUCTS--Urban and rural agriproducts markets in Tianjin Municipality have become brisker. In the first 6 months of 1981, the volume of business was 70.28 million yuan, a 54.6 percent increase over the corresponding 1980 period. Its urban market sales were over 27 million yuan resulting in more than a 6-yuan per capita purchase value. [SK270702 Tianjin City Service in Mandarin 0030 GMT 27 Jul 81]

CSO: 4007/528

BRIEFS

GUSHI COUNTY BUMPER RAPE HARVEST--Gushi County reaped a bumper harvest of rape this year. By 12 June, the county had overfulfilled its quota for procurement of oil-bearing crops for the whole year by 2.93 million jin. The total output and per mu yield of the 80,000 mu of rape this year exceeded the previous highest levels. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 18 Jun 81]

GOOD WHEAT HARVEST--By 10 June, Henan Province had reaped wheat on 62 million mu. Although production in some counties and municipalities dropped, the province reaped a good harvest of wheat. This good harvest was achieved after the people throughout the province had combated the most serious drought for 40 years. Dai Suli, provincial CCP Committee secretary and vice governor, praised the good harvest of wheat. [HK030931 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 16 Jun 81]

ZHOUKOU PREFECTURE BUMPER HARVEST--Zhoukou Prefecture reaped a bumper harvest of wheat on 1.2 million mu this year and its total output was some 10 percent more than last year. [HK030931 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 18 Jun 81]

ANTIDROUGHT WORK MEETING--On 20 June, the Henan provincial people's government held a meeting on antidrought work. Responsible comrades of the departments concerned at the provincial level attended and Li Qingwei, provincial CCP Committee secretary and vice governor, presided. The comrades attending listened to the report made by a responsible comrade of the provincial antidrought command on combating drought and made arrangements for antidrought work and farming. They held that it is essential to do well in grasping field management and water control. The meeting called on the province to develop water conservancy construction quickly. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 22 Jun 81]

NATURE CONSERVATION CONFERENCE--The Henan conference on the examination and determination of natural conservation zones was held in Zhengzhou from 14 to 19 June. Members of the planning office of the Henan Provincial Agriculture Committee, the Henan specialized leadership group on the natural conservation zones and the comprehensive investigation team as well as concerned personnel of the Henan Provincial Science Committee, the Henan Scientific and Technological Association, the Henan Zoology Society, the Henan Botany Society and the Henan Forestry Society attended the conference. The participants seriously listened to detailed reports

made by the comprehensive investigation team on the natural conservation zones. The conference also discussed the catalogue of Henan's valuable and rare animals and plants under protection and formulated plans to first establish eight natural conservation zones which have a total area of 488,000 mu. The conference also suggested that the plans be written in the form of a document to be submitted to the central authorities for examination and approval and then immediately issued and implemented by the provincial government. [HK030931 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 24 Jun 81]

COTTON PRODUCTION CONFERENCE--From 26 to 28 June, the Henan provincial people's government held a conference, which was attended by responsible comrades in charge of cotton production. The conference analyzed the province's current situation in cotton production and looked into future measures for tending cotton fields. The conference called on governments at all levels to strengthen leadership over cotton production. Li Qingwei, provincial CCP Committee secretary and vice governor, and Cui Guanghua, vice governor, attended and spoke. On 28 June, the provincial people's government issued a circular on strengthening cotton field management and striving to reap bumper cotton harvest. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 29 Jun 81]

GRAIN PRODUCTION--The masses in Zhoukou Prefecture, Henan Province, reaped 2.5 billion jin of grains from 7.2 million mu of land sown to summer-ripening crops this year. [OW121341 Beijing Domestic Service in Mandarin 1200 GMT 4 Jul 81]

GRAIN CONTRACT SYSTEM--Zhengzhou, 6 Jul (XINHUA)--Beginning in 1979, Henan Province adopted a unique method of state grain purchase from and supply to 15 poor counties. The method is: on the basis of the differences recorded in the previous 3 years between the amount of grain turned over to the state and the amount of grain supplied by the state, these 15 counties are each required to only turn over or receive the difference thus arrived at. Once the difference is determined, it will be in effect for 3 years. Statistics show that in 1980, owing to this contract system in dealing with the 15 counties, Henan saved a total of 170 million jin of grain and 1.29 million yuan in shipping expenses, a saving of 2.9 million yuan. [OW101439 Beijing XINHUA Domestic Service in Chinese 1138 GMT 6 Jul 81]

UNDERGROUND GRAIN SILOS--Zhengzhou, 7 Jul (XINHUA)--Peasants in 60 counties and cities of Henan Province are now storing grain in underground silos, according to an official of the provincial grain department. The local peasants began building underground silos in 1965. The experimental silos were based on experiences accumulated over a long period, particularly knowledge from the excavation of the Hanjia silo in Luoyang, he said. Tests show that wheat preserved in underground silos for 10 years has a germination rate of 97.8 percent and food made from the wheat taste almost the same as that made from newly produced wheat, the official said. Construction of a 500-ton underground silo costs only 60 to 80 percent that of a surface silo and the grain storage fee is a quarter of that for house type granaries, he said. A recent meeting here sponsored by the State Scientific and Technological Commission, the State Planning Commission, the Ministry of Food and the Ministry of Finance, said that Henan's underground silo plan can be adopted nationwide. [OW101439 Beijing XINHUA in English 0106 GMT 7 Jul 81]

WHEAT HARVEST--Zhengzhou, 8 Jul (XINHUA)--Henan has reaped a bumper wheat harvest this year despite the serious drought conditions which have troubled the province. Total wheat output reached more than 19 billion jin, up some 1 billion jin from the 1980 figures. To celebrate the event, firecrackers were set off by the commune members and movies were shown. As a result of the good harvest, commune members were enthusiastic in paying wheat tax to the state. By 24 June, the had turned in 2.62 billion jin of summer grain to the state, accounting for 82 percent of the 1981 requisition and purchase quota. [OW130555 Beijing XINHUA Domestic Service in Chinese 0109 GMT 8 Jul 81]

NANYANG PREFECTURE AGRICULTURAL PRODUCTION--A big increase in agricultural production was reported for Nanyang Prefecture, Henan, this summer. The prefecture's total summer grain output reached 2.52 billion jin, or 480 million jin more than in 1980. As of 6 July, some 473 million jin of summer grain had been delivered to state granaries. The production of oil-bearing crops also registered phenomenal growth this summer with rapeseed output reaching 280 million jin, an all-time high record for the prefecture. [OW261337 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 22 Jul 81]

WHEAT HARVEST--Despite a disastrous drought this year, Henan had a bumper wheat harvest. Total output of wheat was more than 19 billion jin, an increase of approximately 1 billion jin over last year. The harvest is second only to the 1979 harvest and is the second bumper harvest year since liberation. As of 24 June, 2.62 billion jin of summer grain has already been put into granaries. This accounts for 82 percent of the state procurement task. [Beijing GUANGMING RIBAO in Chinese 9 Jul 81 p 1]

CSO: 4007/527

SPREAD OF HYBRID RICE REPORTED

Wuhan CHANGJIANG RIBAO in Chinese 13 Jun 81 p 1

[Article: "Wuhan Suburban Counties Shows Remarkable Results in Increased Output Through General Promotion of Hybrid Rice"]

[Text] Wuhan's suburban counties have won gratifying economic results from active promotion of hybrid rice. This year the area sown to hybrid increased again over the previous year. Right now sowing of the single season late crop is nearing an end, with hybrid rice accounting for more than 90 percent of it.

Hybrid rice is one of China's major discoveries in agricultural science. Hybrid rice produces high yields of superior quality, producing between 100 and 150 jin per mu more than conventional rice, and is well received by the peasants.

Wuhan began to promote hybrid rice in 1976 when somewhat more than 800 mu were test planted during the first year, with success everywhere. During the second year, the area was expanded to 80,000 mu, again with the anticipated results, and hybrid rice received general acclaim. In the third year, 1978, it developed with a single leap to 390,000 mu, and though this year's single season hybrid rice encountered damage from sustained high temperatures and had a high rate of empty husks, which reduced yields somewhat, tremendously increased output was harvested from the hybrid rice that was planted as a late crop in a double crop system, making up for the other crop and still increasing output by more than 32 million jin. During the past several years, agricultural scientists and technicians and comrades in production units throughout the city have jointly summarized experiences and lessons in the growing of hybrid rice, and have written up to 100 articles, and reports on experiments, combining theory with practice, as a result of which hybrid rice has steadily spread in the suburbs, and currently the entire city has become a hybrid rice planting technical corps, which has figured out the hybrid rice combinations suited to natural conditions in this locale.

The spread of hybrid rice has won remarkable economic benefits. Statistics show 5 years of accumulated planting of 980,000 mu of hybrid rice have increased production of paddy by 114 million jin.

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CSO: 4007/498

SOIL TESTS USED TO DETERMINE KINDS, RATES OF FERTILIZATION

Wuhan HUBEI RIBAO in Chinese 19 Jun 81 p 1

[Article: "Benefits Derived from Soil Survey; Huanggang County Saves 680,000 Yuan on Chemical Fertilizer for Early Rice in a Single Season"]

[Text] Following a soil survey in Huanggang County, fertilization was prescribed for large area early rice production on the basis of soil differences. This year the entire county prescribed the fertilization of 150,000 mu of early rice. New roots were numerous; plant growth was strong, tillering was rapid, and young panicles developed early to provide a framework for a bumper harvest. More than 60,000 mu of cold waterlogged fields and muddy fields had fertilization prescribed, and measures for the opening of drainage ditches were adopted, with the result that growth of seedlings has exceeded that of last year. After Huanggang County peasants adopted this sensible method of applying fertilizer, for a single season early rice crop alone they saved more than 680,000 yuan on fertilizer.

Tens of pedologists and agricultural scientists and technicians from all over the province made on-site tests in Huanggang County. They affirmed that prescribed fertilization would be a good way to increase per unit yields and lower costs, and application of the results of a soil survey would advance scientific farming.

Prescription fertilization was proposed by the Huanggang County agricultural scientists and technicians on the basis of field experiments and following compilation of data on the soil's content of major nutrients and crop requirements of nitrogen, phosphate and potash. Different kinds of soil and different fields were fertilized with different quantities of fertilizer, and different proportions of nitrogen, phosphate, and potash were also applied to gradually build up files that could be applied to the fields. Use of such methods greatly increased the fertilizer utilization rate. According to preliminary statistics, in the county's use of fertilizer for the early rice crop this year, nitrogen was one-third less during the same period last year, and phosphate and potash greatly increased. This was because 89 percent of the fields in the county were deficient in phosphate, and 45 percent were deficient in potash. As a result of the sensible application of fertilizer, more than 680,000 yuan was saved on chemical fertilizer for the single season of early rice as compared with the same last year.

9432

CSO: 4007/502

RURAL ECONOMIC ROLE OF COMMUNE, BRIGADE ENTERPRISES EXAMINED

Wuhan HUBEI RIBAO in Chinese 22 Jun 81 p 1

[Article: "Party Policies Convey Brilliant Prospects for Commune and Brigade Enterprises. Development of Hubei's Commune and Brigade Enterprises Plays Major Role in Making the Rural Economy Prosper"]

[Text] On the eve of the celebration of the 60th birthday of the Chinese Communist Party, prefecture, municipal, and county commune enterprise bureau directors attending a provincial commune and brigade enterprise forum linked achievements in the development of commune and brigade enterprises in Hubei Province in an enthusiastic eulogy of the party's brilliant leadership, and determined to continue to carry out the party's programs and policies to hasten development of commune and brigade enterprises to make the rural economy prosper further.

For the past several years, all echelons of the party organization in Hubei Province have diligently carried out a series of programs and policies from the CCP Central Committee on the development of commune and brigade enterprises to assure that commune and brigade enterprises would move ahead in the midst of readjustment and improve in the midst of restructuring. In 1980, the province had more than 11,800 commune and brigade enterprises employing 1,526,000 people, and with a completed output value of 2.33 billion yuan, 1.8 times that of 1975. Between January and May of this year, output value of commune and brigade enterprises again increased 14.8 percent over the same period last year. The position and role of commune and brigade enterprises in the national economy is becoming ever more remarkable.

Gradual changes in the structure of Hubei Province's rural economy, and consolidation and strengthening of the collective economy. In 1980, total earning of the province's commune and brigade enterprises as a proportion of total income of the three-tier rural economy rose from 12 percent in 1975 to 27 percent. Commune and brigade enterprises fixed assets amounted to 2.07 billion yuan, a 1.25 fold increase over 1975.

Provides the funds and the means of production for development of agriculture. During the 5 year period between 1976 and 1980, profits realized by commune and brigade enterprises that were used for the capital construction of farmland, the purchase of farm machinery, and the support of poor brigades totaled more than 500 million yuan, or more than 100 million annually, more than three times the amount provided annually by the state during the past 2 years as investment in

agriculture in Hubei Province. Additionally, commune and brigade enterprises shouldered responsibility for production of medium and small farm implements and for the manufacture and repair of farm machines, annually providing agricultural production with more than 30 million medium and small farm tools made of iron, wood, and bamboo, and a like amount of farm machine spare parts, pesticides and fertilizer.

Provides good for city and countryside markets and for export in foreign trade. The province's commune and brigade enterprises produce about 3,000 different kinds of goods, most of which are goods for daily use needed in the life of the people such as knitwear, clothing, shoes, and hats, and bamboo and wooden furniture, "making good omissions and deficiencies, and filling in the gaps to complete a chain of goods" for markets. Arts and crafts and native products produced by commune and brigade enterprises enjoy ready sales in international markets. According to incomplete statistics, output value of foreign trade export goods produced by the province's commune and brigade enterprises amounted to more than 28 million yuan.

Accumulates capital and provides a certain amount of raw materials, fuels, and energy for the state. During the 5 years between 1976 to 1980, the province's commune and brigade enterprises provided the state tax revenues of more than 370 million yuan of which the revenues tendered during the 1980 amounted to 92.57 million yuan, or 6.6 times the 14 million yuan that the state provided for support of commune and brigade enterprises. Commune and brigade enterprises-produced raw coal and gold was 30 percent of the province's total output, and iron ore, sulfur, and small hydroelectric installed capacity amounted to more than 40 percent; brick and tile output amounted to 60 percent.

Increases the level of distributions to commune members. Statistics for the last 4 years show that wages returned to commune and brigade enterprises amounted to more than 1.08 billion yuan. In terms of the province's agricultural population, this averages somewhat more than 27 yuan per person. In 1980, in the 53 production brigades in the province where the level of distributions was above 300 yuan, income from commune and brigade enterprises amounted to more than 50 percent the total income.

Opens a new avenue of employment for the rural workforce, and promotes development of rural cultural, educational, and collective welfare endeavors.

In short, development of commune and brigade enterprises has unfolded a glorious and splendid prospect for gradual narrowing of differences between city and countryside, for the building and development of agriculture, and for rich and populous rural villages. Moreover, practice has shown that without the leadership of the party, and without the guidance of the party's correct line, programs, and policies, there would be no development of commune and brigade enterprises, and no prospering of the rural economy. Particularly important was the Third Plenary Session of the 11th Party Central Committee, which proceeded from the realities of national life in China to make development of commune and brigade enterprises a major measure for enlivening the rural economy whereby 800 million peasants could become wealthy with all possible speed. The Third Plenary Session's two documents on development of agriculture noted that "People's communes must actively operate commune and production brigade enterprises in a planned way in accordance with local resources and social requirements, and while assuring a good job of agricultural production.

"Whatever agricultural by products can be processed in rural villages in accordance with rational economic principles should gradually come to be processed by commune and brigade enterprises." They also asked that "commune and brigade enterprises should have a great development." These important instructions and the stipulations of a series of policies played a major role in eradicating "leftist" influences, and in raising the understanding of the people about the importance and necessity of developing commune and brigade enterprises, becoming a powerful force in the vigorous development of commune and brigade enterprises in Hubei Province. The recent 16 regulations from the State Council on national economic readjustment of commune and brigade enterprises fully affirmed that commune and brigade enterprises are a major integral part of the rural economy, and are in keeping with the overall direction of development of the rural economy. They put forward the fundamental principles and requirements for the readjustments and restructuring of commune and brigade enterprises. So long as all levels of the party organization further strengthen leadership, and proceed according to regulations and from the requirements of the macro-economy to diligently readjust and restructure, on the basis of the characteristics and existing problems in commune and brigade enterprises, new development will inevitably occur in the commune and brigade enterprises of Hubei Province.

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CSO: 4007/502

BRIEFS

RAPSEED PROCUREMENT--By 25 June, Hubei Province had purchased 1.23 million dan of rapeseed. This was 11.8 percent more than the target set for this year and surpassed the record for last year's corresponding period by 700,000 dan. [OW290149 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 26 Jun 81]

ANIMAL HUSBANDRY--A Hubei provincial conference on animal husbandry work concluded in Wuhan on 27 June. Over 250 representatives from relevant units in the province attended. Ren Zhonglin, deputy secretary of the provincial CCP Committee, and Shi Chuan, standing committee member of the provincial CCP Committee and vice governor of Hubei, spoke at the conference. The conference discussed the development of hog and cattle breeding, the responsibility system for animal husbandry, the building of veterinary stations and the raising of hogs, cattle, sheep and rabbits by commune members' families. [OW101439 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 28 Jun 81]

GRAIN PROCUREMENT--By 10 July Hubei Province had procured 1.414 billion jin of summer grain, topping the same period last year by 440 million jin and overfulfilling this year's summer grain procurement plan. [OW200555 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 15 Jul 81]

FLOOD PREPARATIONS--An unusually high flood peak will happen on the section of the Jingjiang in Hubei Province on 19 July. On 14 July, the provincial party committee held an emergency flood-prevention meeting, which urged counties and municipalities on the banks of the Changjiang to heighten their vigil and focus their attention on preventing floods. It is forecast that at 1400 on 18 July, the flow capacity of rivers in Yichang will be 70,000 cubic meters per second with water level at 55.2 meters. At 1100 on 19 July, water level in Shashi will reach 44.4 meters and flow capacity will reach 56,000 cubic meters per second. The provincial party committee has decided to set up a headquarters for combating floods at the frontline of the Jingjiang. The Wuhan military region, the Wuhan air force and the Hubei provincial military district have made plans for supporting the antiflood struggle. [OW200555 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 15 Jul 81]

BRIEFS

TOBACCO TAX--Tax will be reduced for the above-quota tobacco sold to the state this year, according to a circular issued by the Hunan provincial people's government recently. According to the circular, 61 yuan of tobacco tax will be reduced for each 100 jin of above-quota tobacco sold to the state. The circular also stressed that all areas must strengthen management of the tobacco market, that no other departments than authorized supply and marketing departments are allowed to purchase tobacco, that all tobacco-producing units may not sell their tobacco to private sectors before they have fulfilled their quotas, and that serious speculation on tobacco must be punished according to law. [Changsha Hunan Provincial Service in Mandarin 2300 GMT 27 Jun 81]

EARLY RICE--As of 9 July, Hunan Province had harvested 1.2 million mu of early rice. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 10 Jul 81]

IRRIGATION CIRCULAR--The Hunan provincial people's government issued a circular on 10 July calling on various localities to strengthen the management in the use of irrigational facilities. The circular asked people to refrain from growing crops on levees or aquatic plants in irrigational canals. It also urged them to protect water conservancy facilities. [OW130555 Changsha Hunan Provincial Service in Mandarin 1100 GMT 12 Jul 81]

WATER CONSERVANCY MEETING--The Hunan provincial water conservancy department recently held a province-wide meeting in Changsha on water conservancy work. The meeting called for efforts to strengthen management in the use of irrigational facilities. It noted that only 75 percent of the farmland in Hunan was well irrigated and only 50 percent of the irrigational canals were put to use effectively. [OW130555 Changsha Hunan Provincial Service in Mandarin 1100 GMT 12 Jul 81]

FLOOD PREVENTION--In view of heavy rainstorms and high flood peaks in the upper reaches of the Changjiang and Sichuan Province, Hunan Province's Changde, Yiyang and Yueyang Prefectures are actively reinforcing dangerous sections of dykes, preparing flood prevention material and rushing in harvest of the ripening rice and other economic crops. According to forecasts of observatories in the province, heavy rain could coincide with the arrival of flood waters from the upper Changjiang. The Hunan provincial CCP Committee held an emergency meeting on 14 July and worked out measures to combat catastrophic floods. The meeting called for mobilizing the cadres and people to fight the impending floods. [OW200555 Changsha Hunan Provincial Service in Mandarin 2300 GMT 16 Jul 81]

HOG PRODUCTION--Hunan Province has made continuous, steady development in the production of hogs in 1981. As of the end of June the province had purchased a total of 5.25 million head. Compared with 1980, this number is about the same but the average weight per hog is 8.6 jin heavier, making up an actual increase of over 200,000 head. At the same time, the amount of pork sold to places outside the province was over 43,600 dun, or 1.2 times that in the corresponding period of 1980, overfulfilling the yearly task by 8 percent. [OW221855 Changsha Hunan Provincial Service in Mandarin 1100 GMT 18 Jul 81]

EGG PRODUCTION--Huayuan County, Hunan Province, has purchased a total of over 16,000 dan of fresh eggs in the first 6 months of 1981, fulfilling 132.4 percent of its yearly task. The county has a population of 200,000. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 18 Jul 81]

XINGXIANG COUNTY AGRICULTURE--The total grain output in Xingxiang County, Hunan, in 1980 increased by 160 million jin over that in 1977. In 1980, the county's average per-mu grain yield was 1,200 jin, and the average income of commune members was 105 yuan. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 23 Jul 81]

AGRICULTURAL CREDIT--As of the end of last June, rural banking facilities in Hunan Province had extended to commune members agricultural loans totaling 990 million yuan, 18.7 percent increase over the same period last year. [OW261549 Changsha Hunan Provincial Service in Mandarin 1100 GMT 23 Jul 81]

CSO: 4007/528

JIANGSU

BRIEFS

HYBRID RICE EXPANDED--This year the hybrid rice area of Jiangsu has been expanded by 1 million mu to a total of 10.6 million mu, or 29 percent of the total multiple cropping rice acreage. [Nanjing XINHUA RIBAO in Chinese 5 Jul 81 p 1]

WUJIANG COUNTY HARVEST--Wujiang County, Jiangsu Province, began harvesting its 490,000 mu of early rice on 23 July. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 23 Jul 81]

CSO: 4007/528

JIANGXI

BRIEFS

NANCHENG COUNTY RICE SEEDS--Nancheng County, Jiangxi, has procured 7.5 million jin of fine-strain early rice seeds for use next year. It is now carrying out field management on 12,000 mu of good-seed farmland. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 16 Jul 81]

CSO: 4007/528

BRIEFS

WHEAT HARVEST--Despite severe droughts, Shandong harvested a bumper wheat crop this year. Preliminary figures showed that the province's 52.6 million mu of wheat yielded 15.94 billion jin, an increase of more than 500 million jin over last year; yet this year's total wheat acreage was 3 million mu less than the previous year and the yield of wheat crops in some mountainous areas registered a lower output or no yield at all. As of 5 July, 2.71 billion jin of summer grain were procured by the state. This year's summer grain procurement plan calls for a total of 2.8 billion jin. [Jinan DAZHONG RIBAO in Chinese 9 Jul 81 p 1]

PRAWN LARVAE BREEDING--Jinan, 15 Jul (XINHUA)--Shandong Province has artificially bred 1,070 million prawn larvae so far this year, a fivefold increase over 1980, according to the provincial aquatic department. Shandong's prawn-farming area increased from 5,000 hectares last year to 8,000 hectares. Larvae were shipped to Jiangsu, Shanghai and Liaoning. Shandong Province has large tracts of beaches suitable for prawn artificial breeding. [OW200251 Beijing XINHUA in English 0804 GMT 15 Jul 81]

CSO: 4007/528

PROBLEMS, PROPOSALS ABOUT MILLET PRODUCTION EXAMINED

Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5 May 81
pp 13-15

[Article by Zhang Huozhan [1721 3172 1455], Taiyuan Municipal Forest Bureau:
"Problems With and Proposals for Improving Millet Production"]

[Excerpts] China is a country in which the millet growing area is fairly large. In 1979 the area sown to millet nationwide was 62,589,000 mu, and output totaled 12.25 billion jin for yields of 196 jin per mu. Yields per unit of area and total output amounted to about 4 percent and 3 percent of grain crops.

Distribution of millet is extremely widespread in China. It is planted from the banks of the Heilong Jiang in the north to the foot of the Wuzhi Shan in the south, and from the shores of the East China Sea in the east, to the western plains in the west. Its major area of production is 32° - 48° north latitude and 103° - 130° east longitude. A substantial amount of it is grown from north of the Huai He to the Heilongjiang area. Shanxi Province is one of the major millet growing areas, with an 83,584,000 mu area sown to it in 1979 for an output totaling 1.861 billion jin, and a yield of 223 jin per mu. The area sown to millet was 15 percent of the total area sown to grain crops in the province, and output totaled 12 percent of the province's grain production.

2. Problems in the Production of Millet in Shanxi Province

(1) Decline in growing area and irrational distribution

During the period immediately following Liberation, the area sown to millet in Shanxi Province was 13 million mu. During the late 1950's, it declined to about 10 million mu; during the 1960's, it dropped to 9 million mu; and during the 1970's, it fell to 8 million mu. Because of irrational distribution and the failure to make the most of advantages, corn and gaoliang have replaced millet on many infertile hill slopes, and their outputs are, contrarily, lower than for millet.

(2) Loss of traditional experience in growing millet

China is a country of intensive farming methods where, for a long period of time, the masses have had extremely abundant experience in the growing of millet, as

for instance, in careful preparation of the soil, preserving moisture to fight drought, and in maintaining full stands, as well as in the early thinning of seedlings, guarding against missing seedlings, much cultivation, deep cultivation, obtaining sturdy seedlings, timely clearing of soil from around plants, banking earth up high around plants, guarding against lodging, and such traditional experience. During the past several years, all this has been lost. Some people even imagine that these are methods of small scale agricultural production that are not worth advocating, which is clearly a very lopsided view.

(3) Small superior variety area, and few hardy varieties.

In general superior varieties of millet or intervarietal hybrid varieties have not strikingly increased yields in the way that corn and gaoliang hybrids have. Generally speaking, millet varieties are highly sensitive and limited in their adaptability, and this plus the lack of hardy varieties means that in comparison with other crops, the area over which superior varieties have been promoted is relative small. In numerous places it is still the peasant varieties that are dominant. According to 1979 statistics, the area of spread of superior millet varieties in the province amounted to only 41 percent, while the area of spread of superior varieties of corn, gaoliang, and wheat was more than 90 percent. Explaining the current not very high level of millet breeding in Shanxi Province is that new varieties cannot withstand the test of practice. Furthermore, in promoting superior varieties, work to prevent mongrelization and to protect purity has been neglected. In some communes and brigades, mixing and degeneration of varieties is serious.

(4) Serious situation of missing plants of dryland millet in hilly regions.

Farming of dryland millet in hilly regions of Shanxi Province is rough and ready, and frequently plants are missing, or the soil around plants is cracked. In addition, most mountain area millet varieties are of the large spike type, but the people have a custom of "a few plants so that large spikes will be put forth." The plants that are left are always inclined to be spindly, and less than 10,000 or even only 5,000 or 6,000 plants per mu are allowed to grow. This is a major problem with dryland millet.

(5) Serious spindling and lodging of flatland wetland millet

In Shanxi Province, flatland wetland wheat tends to be planted densely; field care is not properly maintained; and fertilization lacks sensibleness, so millet fields are not well ventilated nor can light permeate them well. Stems and leaves luxuriate and the space between plants is closed giving rise to spindling, serious lodging in the late season and an increase in the empty glume rate.

(6) In some areas, millet diseases and insect pests are on the rise again.

Because of the loss of the effective control and prevention measures that had formerly been disseminated, some diseases and insect pests are on the rise again. Downy mildew, for example, had a plant occurrence of less than 5 percent for many years in the past, but in some communes and brigades, it has risen again to around 20 percent in recent years. During the early 1960's, the soil was treated with

insecticide to control borers in flatland areas, and this substantially controlled the damage they caused. In recent years, however, these borers have run wild, and the rate of damage to plants runs as high as 40 percent and more. Stem flies are also seriously threatening summer millet production in some areas.

3. Proposals for Developing Shanxi Province's Millet Production

(1) Sensible distribution and a constant area.

Shanxi Province located on the Shanxi-Shaanxi loess highlands where the terrain is high and arid, the climate cold, the frost-free season short, and the annual volume of precipitation between 400 and 500 millimeters, most of it concentrated during the 3 months of July, August, and September, is suitable for the growth and development of millet. We must make the most of strengths while avoiding weaknesses, and turn advantages to use for an increase or stabilization of the millet growing area in the mountains to the east and west, in the nearby hilly dryland areas, and in Xinxian, and Yanbei prefectures to have millet account for from 20 to 30 percent of the grainfield area.

In recent years quite a few communes and brigades have changed their system of farming, intercropping with wheat in the fall, or planting corn and millet in strips in fields. However, since millet's light requirements are extremely sensitive, planting of corn and millet in strip fields is extremely disadvantageous for the growth and development of the millet. We advocate the flatland culture method of millet in two crops, or else promotion of the intercropping of wheat and millet as was done in the Jinci area of Taiyuan City. In southern and south-central areas, where the quantity of heat suffices, communes and brigades having the requisite water conservancy conditions should expand their summer millet area. Stabilizing the millet area of the province at 8 million to 10 million mu would substantially satisfy the needs of the people's livelihood.

(2) Serious attention to the promotion of research results and advanced experiences.

The 1978 provincial agricultural science conference affirmed a group of research results on millet, but we have not given sufficiently serious attention to their promotion. Today some results are still held up at their point of origin. In the realm of varieties, for example, the Jingu numbers 1 through 11 region superior varieties approved by the Provincial Varieties Assessment and Approval Commission should be actively promoted, and their area of cultivation expanded on the basis of the zoning proposals of the Provincial Seed Company. At the same time, a good job should be done of purification and rejuvenation of superior variety Baisui Suixing to take full advantage of the variety's increased yields. In the field of cultivation, there is the high yield cultivation technique for millet called "five joys and five fears," the vigorous turning up of the soil in autumn and the three-moisture preparation of the soil practiced in Jinzhuang in Huguan County, Wuhouli's "double natured five soils" for fighting drought and protect seedlings, the "Meihualou" millet of the Xiazhangzhao Brigade in Yangquan, application of mixed manures (40 percent donkey and horse manure, 40 percent cogongrass manure, and 20 percent pig and miscellaneous manure) on millet by the Jianziwan Brigade of Taiyuan City, the gorge planting methods, and the "four earlys and one close" culturing techniques for millet practiced in Hebei and Henan, all of which are successful experiences suited to the characteristics of this province, which should be diligently spread.

(3) Dryland millet requires increase in soil fertility and increase in density.

About 70 percent of the millet grown in Shanxi Province is on drylands in the hills and mountains where the soil is infertile and its organic content less than one percent. A beginning should be made by increasing soil fertility through large plantings of green manure, rotationally cropping millet and grass or millet and beans, or rush planting a crop of rape before the millet has been sown. Once soil fertility has been increased, between 10 and 20 percent more seedlings per mu can be planted, with no fewer than 15,000 individual seedlings per mu.

(4) For flatland wetland millet, the distance between rows should be suitably widened to reduce density.

In view of the problem of wild growth and lodging of flatland wetland wheat, experiments conducted everywhere show a need for changes in planting methods. Distance between rows should be increased from 6-7 cun to 1 chi, or else large and small rows should be planted (large rows being 1.2 chi, and small rows being 8 cun), or else promote "meihualou" millet (rows being 1.2 chi apart, and a sowing width of 4 cun) or gulch planting methods to solve the problem of competition for ventilation and penetration of light. In determining the density of seedlings, a rational density of seedling colonies will have to be found on the basis of varieties, fertility of the soil, and planting methods. A rather scientific criterion is to measure the leaf area index, which should be 1.2 during the seedling stage, 1.5 during the jointing stage, and not more than 5.5 during the heading stage. In the application of fertilizer, restraint should be exercised with nitrogenous fertilizer, and application of phosphate increased in a proportion of 2:1. For wetland millet, topdressings of fertilizer should be delayed until the booting stage. In caring for the millet, during the seedling stage irrigation should be interrupted to strengthen the seedlings against possible future drought, and during the 3 to 5 leaf stage, green manure should be trampled or tamped into the soil once or twice. Cultivation should be done at least three times. During the second deep hoeing, in particular, the "thin roots should be snapped so new roots will grow," hoeing being done to a depth of about 2 cun to promote root development and restrain the seedlings from wild growth. During the third cultivation, the soil should be banked high around the plants. This is remarkably effective in the prevention of lodging.

9432

CSO: 4007/469

GUIDELINES FOR ADVANCE DISTRIBUTIONS OF SUMMER GRAIN CASH SET

Taiyuan SHANXI RIBAO 'in Chinese 22 Jun 81 p 1

[Article: "Farm Work Department of Provincial CCP Committee Puts Forth Ideas on This Summer's Advanced Distributions; Determined to Proceed From the Strengthening and Perfection of Systems of Responsibility"]

[Text] This year's wheat production in Shanxi Province has two characteristics. The first is that 90 percent of all production teams that farm wheat have instituted a system of responsibility linked to production. The second is the lack of snow and little rain last winter and this spring, which has meant a decline in wheat output in some places. Under these circumstances, how should advanced summer distributions be handled? Recently, the Farm Work Department of the Provincial CCP Committee convened a conference of comrades in charge in all prefecture and municipal farm work units, and following discussion and study it put forth some ideas for advanced summer distributions in 1981. It emphasized that in making advanced distributions from the summer harvest, it was determined to proceed from the principles of benefit to the strengthening and perfection of the system of responsibility, benefit to gaining the confidence of the people about the party's policies, benefit to development of an all around good situation in rural villages, adherence to simultaneous concern for the state, the collective, and the individual, adherence to maintenance of distributions in accordance with work, the greater the work the more the return, and adherence to action on rewards and penalties in accordance with contracts as originally agreed.

1. Verification of Output. No matter the form of a system of responsibility, there must be verification of output and of earnings in a seeking after truth in facts. Under present circumstances, the fixed output quota portion is fairly easy to verify, but the portion of production in overfulfillment of quotas is comparatively difficult to statisticalize. The portion of production in overfulfillment of quotas may be checked using a combination of output estimates by cadres and old peasants, and representative sampling; there is no need to verify household by household. Resort to coercion and commandism and doing things in an oversimplified way are to be guarded against.

2. Fulfillment of Requisition Purchases. In places that have instituted the fixing of output quotas on a worker basis or a household basis, and particularly the fixing of work quotas on a household basis, indoctrination of the peasants in love of country and concern for the overall situation should be intensified in

order to spur them to actively fulfill requisition procurement quotas and to sell their good grain to the state. There must be diligent implementation of the party's policies of "absolutely no purchases of over-age grain," and "store grain among the people." In fulfillment of requisition purchases and purchase of output in excess of quotas, "putting the lash to an already fast ox" is to be avoided. In places that have instituted a system of responsibility, requisition purchases and purchases of output in overfulfillment of quotas is to be done in a uniform way by sales from collectives; there is to be no apportioning to commune members. When it is necessary to purchase grain at a negotiated price from a commune member household, it is to be done in accordance with state pricing policies and through democratic discussion with the collective and the household having the surplus grain in an effort to achieve satisfaction for the state, the collective, and the individual. At the time of grain sales, deliveries may be made uniformly by the collective or by individual households, with accounts being kept in a unified way.

3. Good Distribution of Consumption Grain. In units that have instituted calculation of remuneration on the basis of fixed quotas or have linked output to teams, distributions of grain for consumption are still to be made on the basis of proportional human labor or work done getting special consideration. Where units have instituted fixed output quotas on a worker or household basis, diligent investigation and study, summary of experiences, and discussion with the masses should be conducted to settle on a means of distribution. The problem of consumption grain for the families of military personnel and martyrs and households enjoying the five guarantees [childless and infirm old persons who are guaranteed food, clothing, medical care, housing and burial expenses by people's communes] is to be looked after and solved.

4. Checking Workpoints. This year numerous production teams have instituted a system of responsibility of fixed output quotas for individual workers or households for wheat production. As a result, work efficiency has increased greatly, and a relative decline has taken place in the amount of labor used to care for fields. Investment of labor during the first half of the year when labor was contracted for field production was strikingly less than the amount of labor invested in forestry, animal husbandry, and sideline industries. In making summer grain distributions, the method of participation in summer grain distribution on the basis of a proper proportional investment of labor by agriculture, forestry, animal husbandry, sideline occupations, and industry may be used; irrational distribution of wheat is to be avoided to the maximum extent possible.

5. Honoring of Rewards and Penalties. This year quite a few wheat producing units have had a drop in output. In units where the extent of drop has not been great, matters may be handled according to contracts as agreed. In units where the drop in production has been marked, solution may be found in either drawing a line for basic level of output or in appropriate reduction of output quota standards. In individual cases where contracts have not been carried out for no discernable proper reason, leaders at all echelons should begin by hearing widespread views from the people, taking prompt action or having matters decided in the courts.

6. Making Arrangements For the Livelihood and Production of Commune Members in Disaster Areas. All jurisdictions must act promptly, clarify disaster situations,

and take action to do an effective job of providing for the livelihood of commune members so as to calm the masses. All jurisdictions should proceed from needs for production, and actively help communes and brigades do a good job of assembling and transporting production materials such as seeds and chemical fertilizer. Communes and brigades where conditions permit, can help grain short brigades or households, borrowing grain from grain rich brigades or households, and making procedural arrangements, borrowers being responsible for repayment.

7. Doing a Good Job of Advance Cash Distribution. CCP committees at all levels should place on their agendas advance summer distributions, and make overall arrangements with consideration to all factors in the use of funds. They must properly define a proportionate repayment of loans and of machine cultivation, water, and electricity fees, and allocate a certain amount of funds for distribution to commune members, striving to have most accounting units be able to give commune members an advance distribution of cash.

9432

CSO: 4007/498

BRIEFS

NON-COLLECTIVE HARVESTING OF WHEAT--Once a system of responsibility for wheat linking output to households or individual workers has been instituted, how is harvesting and threshing to be done. The correspondent visited Duandian Commune in Linfen City with this question in mind. Their method was household by household harvesting and threshing. This method is faster and quality is higher than unified harvesting and threshing by production teams. In order to meet individual household threshing requirements, each of the production brigades and production teams in this commune assembled machinery, lined up threshing grounds and organized workforces in active preparation. Apart from the workforce required for tractors and threshing machines, which were uniformly assembled collectively, the harvesting, hauling, and threshing of grain by rolling were done by individual households. Communes called upon commune members to carry forward the spirit of mutual help and friendship, and exchange of labor in real cooperation. Following threshing by rolling, the wheat was weighed on site and commitments honored then and there. The fixed quota portion went to granaries, and the grain in excess of output quotas reverted to the households. Individual households that did not use machinery, but rather used draft animal power to turn the threshing wheels, tendered the fixed output quota portion of grain to their production team as had been stipulated. Each production team placed on individual households specific requirements for fulfillment of assigned state grain requisition procurement quotas, and the way in which they were to be fulfilled. [Text] [Taiyuan SHANXI RIBAO in Chinese 17 Jun 81 p 2] 9432

CSO: 4007/498

BRIEFS

AGRICULTURE, LIVESTOCK CIRCULAR--The Xinjiang regional agriculture and animal husbandry committee issued a circular on 22 June, calling on all places to actively implement all kinds of production responsibility systems and do a good job of promoting summer agricultural production. The circular noted that resolutely implementing the principle of distribution according to work, doing a good job of promoting preliminary distribution of the summer harvest and actually fulfilling the production responsibility system are new significant in further mobilizing the enthusiasm of the commune members and reaping a year-round bumper harvest. [HK030948 Urumqi Xinjiang Regional Service in Mandarin 1650 GMT 24 Jun 81]

LIVELIHOOD IMPROVEMENT--Following the implementation of the party's rural economic policy, the condition of food supplies for the people in the urban and rural areas of Kashi and Hotan prefectures has been greatly improved. For many years in the past, the variety of food supplied to these prefectures was limited and the quantity of food was small. At present, the food supplies are ample and people can buy food whenever they go to the grain shops. The Kashi municipality's food supplies are now 70 percent more than previously. The per capita ration of the commune members in (Shiyi) commune in Shache County in 1980 was 384 jin, 39 jin more than in 1979. Together with the grain produced on their private plots, the great majority of the masses have more surplus grain. By the end of May this year, commune members' households which had the most surplus grain had 3,000 to 5,000 jin of surplus maize and some 1,000 jin of surplus of wheat, while commune members' households which had the least surplus grain had some 1,000 jin of surplus maize and some 100 jin of surplus wheat. [HK230216 Urumqi Xinjiang Regional Service in Mandarin 1650 GMT 3 Jul 81]

CSO: 4007/528

BRIEFS

RAPE OUTPUT--Zhejiang Province planted more than 3.76 million mu of rape last winter, 800,000 mu more than the previous year. The average yield may reach 162 jin per mu. Total output of rapeseed is presently estimated to be more than 6 million dan. [Hangzhou ZHEJIANG RIBAO in Chinese 6 Jun 81 p 1]

AGRICULTURAL STATISTICS--The gross value of agricultural output for 1980 is 8.507 billion yuan. This is an increase of 3.69 times over the 1949 figure of 1.814 billion yuan. The grain output for 1980 is 14.35 million tons. This is an increase of 2.34 times over the 1949 figure of 4.3 million tons. The 1980 cotton output is 82,900 tons. This is an increase of 11.19 times over the 1949 figure of 6,800 tons. The output for rapeseed in 1980 is 272,100 tons. This is an increase of 2.01 times over the 1949 figure of 90,300 tons. The hemp and jute output figure for 1980 is 149,700 tons. This is an increase of 14.59 times over the 1949 figure of 9,600 tons. The 1980 sugarcane output is 588,000 tons. This is an increase of 8.13 times the 1949 figure of 64,400 tons. The tea output figure for 1980 is 75,400 tons. This is an increase of 10.42 times the 1949 figure of 6,600 tons. Silkworm cocoon output for 1980 is 65,000 tons. This is an increase of 5.19 times that of the 1949 figure of 10,500 tons. The number of live hogs raised in 1980 is 28.28 million head. This is an increase of 4.89 times over the 1952 figure of 4.8 million head. Output of aquatic products in 1980 is 817,400 tons. This is an increase of 10.51 times the 1949 figure of 71,000 tons. The output of citrus in 1980 is 91,400 tons. This is an increase of 4.61 times the 1949 figure of 16,300 tons. [Hangzhou ZHEJIANG RIBAO in Chinese 4 Jul 81 p 4]

CSO: 4007/527

Agricultural Research

AUTHOR: XIAO Shusheng [5135 2611 3932]

ORG: Huang District Science Committee

TITLE: "Application of 'Sparse Seeding [for Transplanting] Intermediate Number of Seedlings' in Second-season Late Rice Production"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 6, Jun 81 pp 7-9

ABSTRACT: "Dense seeding for numerous seedlings" is a common shortcoming in the second-season late rice production of Huanggang District. The seedlings look like silk-threads and many of them are transplanted in a single hole. This is currently one of the important reasons for the unstable and low yield of that crop. On the average, the district uses more than 250 jin/mu for the seedbeds, sometimes more than 300 jin, to produce 300-450 thousand seedlings for one mu of rice. The seed-consumption is more than 35 jin per mu. This paper uses numerous statistical data to prove the contention that the technique of producing the highest and most stable yield is to transplant strong seedlings in medium numbers. This technique requires that about 100 jin of seeds are planted in every mu of seedbed. The facts and theories with respect to the nutritional foundation for high yield in support of this form of seeding and transplanting are detailed.

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TITLE: "Hand Warming of the Spike Technique in Sexual Hybridization of Rice"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 6, Jun 81 pp 11-12

ABSTRACT: The most commonly used method of detasseling in sexual hybridization of rice is the warm water castration method. The warm water often causes the ovary to be injured in various degrees. In 1980, the authors found an even easier and safer technique of removing the male flower. At 5-8 o'clock in the morning just before the natural blooming of the rice plant, the spike of selected rice plants should be held in one hand for 1-4 minutes. All spikes which are to bloom naturally on the same day will open the glume 5 minutes after being warmed in the hand in this manner. On the morning of heavy dew or with breeds of thick hull, such as geng varieties, the spike should be held or warmed in the hand for 3-4 minutes. The anther should be cut off with a pair of scissors as soon as the glume breaks open. Details of the technique and its merits are given.

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TITLE: "On the Problem of Introducing Soybean Seeds"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 6, Jun 81 pp 18-19

ABSTRACT: Last year, the weather in Hubei was not ordinary. There was lots of rain in Jul and Aug resulting in very low temperature. Large areas of soybean were flooded and diseased, and the yield dropped very seriously. Many areas did not have soybean seeds for planting and large scale importation of seeds from other provinces had become necessary. In the author's opinion, if the seed importation attempts are not immediately controlled, the adverse effects of last year's bad weather will be carried on into the future. The author lists problems of geographical conditions, including latitudinal and altitudinal conditions of seeds, morphological differences, ripening characteristics, and comprehensive utilization features. The author urges an immediate analysis of soybean seeds intended for importation and planting in Hubei in the coming year.

AUTHOR: CHEN Guangwan [7115 0342 1238]

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TITLE: "Brief Report of Equivalent Quantity of Nitrogen Application for Cotton"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 6, Jun 81 pp 21-24

ABSTRACT: Nitrogen nutrition is the most important factor for high yields of cotton. While the nitrogen supply condition of the soil determines the formation condition of cotton nutritional and reproductive organs, it also, finally, affects the yield and the quality of the cotton. Since 1975, the author and colleagues have carried out an experiment with applications of same quantity of nitrogen in several major cotton producing regions of the province under identical conditions of cropping technique for the dual-crop system of cotton and wheat. The experimental technique involves the use of organic fertilizer and farm fertilizer for basic application with ammonium sulfate applications during the seedling, the budding, and the boll formation stages, but under the condition of equal quantity of nitrogen, half of the total nitrogen is in basic fertilizer, and the other half in the subsequent applications of chemical fertilizer, properly coordinated with phosphorus and potassium. Yield and other data of the experiment in 1975, 76, 78, and 79 are reported.

6248

CSO: 4009/383

AUTHOR: WU Wenjun [0702 2429 6874]

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TITLE: "Quantitative Relationship Between the Temperature and Light Condition and the Growth and Development of Rice"

SOURCE: Luda LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 3, 15 Jun 81

ABSTRACT: Field experiment data are used as the basis to observe and analyze from the meteorological point of view, the growth and development characteristics and the principle of reaction to temperature and light in different stages of rice crops under a natural environment to produce quantitative indices for the various stages of growth and development of rice. The regular breed Xinyin No 1, which is highly temperature sensitive, is used for the experiment and planted and transplanted in 7 periods of 15-day intervals, between 31 Mar - 5 Jul (seeding) and 8 May - 4 Aug (transplanting.) Preliminary analyses of the data obtained from the 2-year experiment indicate that sunlight is not a limiting factor for growth and development during the nutritional growth stage and the early stage of spike evolvment. In the later stages of spike evolvment and stages of blooming and fruiting, the action of light is very obvious. To a certain extent, sunlight can alleviate the harm done by low temperature and supplement thermal deficiency. Details of the experimental data are presented and analyzed.

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TITLE: "Soybean Organ Balance and Yield"

SOURCE: Luda LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese No 3, 15 Jun 81 pp 14-21

ABSTRACT: Biotic yield is the foundation for the yield of seeds. For soybean the economic coefficient is generally at about 30-45 percent. At present, in breeding high yield crops, the emphasis is on improving shape of the stalk for the purpose of increasing utilization rate of photo energy. An adjustment of density can cause breeds of different individual yield capacity to produce nearly the same yield in a colony, but lodging is the limiting factor for the increase of density. The ideal organ balance model is reasonably small quantity of leaves, stems, pods, etc. and reasonably large seeds. This balance is related to genetic factors and is influenced by environmental factors as well. It is possible to use techniques of hybridization to produce high yield breeds of reasonable organ balance, however, and the rate of transfer of assimilation products to the seeds ultimately reflects the economic coefficient of the soybean breed. This paper reports results of a study on the relationship between organ balance and yield of 35 soybean breeds.

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ORG: Both of Research Institute of Mechanized Crop Cultivation, Liaoning Provincial Academy of Agricultural Sciences

TITLE: "Preliminary Report of Experimental Research on Rotated Plowing of River Alluvium Soil"

SOURCE: Lida LIAONING NONGYE KEXUE [LIAONING AGRICULTURAL SCIENCES] in Chinese
No 3, 15 Jun 81 pp 21-24

ABSTRACT: At present, there is a great debate in Liaoning concerning whether the field should be turned every year or whether deep plowing and turning should be rotated every other year. In essence this is, in the course of restructuring the mechanized cultivation system, whether there should be more plowing or less plowing, and what is the effect on the energy resources and cost of cropping. For the purpose of providing an answer to the problem, the authors carried out an experiment on the Huihe alluvial plain of Shenyang, where the terrain is flat, the water table is 3m, the soil is light loam, the plow layer is 20cm in thickness, the soil fertility is in good condition, the organic matter content is about 15 percent, the whole nitrogen 0.1 percent. Results indicate that with the system of alternated year plowing, the organic matter accumulation is better, the soil texture does not deteriorate, and the yield is not influenced; in bean crops there is even a yield increase. The authors recommend the establishment of test points, demonstrations, and extension of the rotated plowing system wherever suitable in the province.

6248

CSO: 4009/386

Agricultural Technology

AUTHOR: None

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TITLE: "On Some Route Breeding Experiences of Rice"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 10 Jun 81 pp 7-9

ABSTRACT: In the past few years a number of rice breeds have been produced in Fujian and they have changed the previous situation of depending upon out-of-the-province breeds for rice production, but due to poor basic research, insufficient considerations of breeding targets, etc. these new breeds cannot yet satisfy needs of production development. This paper describes the geographical, climatic, and technical conditions of Fujian for the purpose of clarifying breeding objectives. The paper maintains that the breeding targets should include: (1) A growth and development period of 110-125 days for early rice and 125-140 for late rice; (2) A yield 5-8 percent higher than current locally extended breeds, to amount to 800-1000 jin/mu in large acreage cropping; (3) A resistance to blast of rice and at the same time a tolerance of low temperature for early rice and a possibility of tolerating or avoiding cold wind and dew damage for late rice; (4) Adaptability to different natural, soil, and cropping conditions; (5) Thin hulls and superior quality, with an above 70 percent rate of processed rice and above 8.5 percent protein content.

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TITLE: "Breeding Processes for Rice Rong-A and Yan-A and Their Mating Affinity Tests"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 3, 10 Jun 81 pp 9-12

ABSTRACT: For the purpose of obtaining new groups of hybrid rice with more ideal disease resistance, ripening stages, and high yield properties than the available ones, the authors observed the blooming habits, adversity resistance, growth and development characteristics, high yield properties, and genetic origins of nearly 1000 primary rice materials. The breeding work began in 1976. After selection and retiring 1885 pairs of hybrid offsprings, 2 new sterile lines: Rong-A (short for Rongxin-75 Sterile Line) and Yan-A (short for Yanjiang-No 1 Sterile Line) were obtained. This paper reports their breeding processes, the major economic properties of F₁ test groupings using Rong-A and Yan-A, and outstanding problems (such as high susceptibility of early ripening groups to sheath and culm blight disease.)

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TITLE: "Experiment With Several New Insecticides for the Prevention and Control
of Rice Planthoppers"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 3, 10 Jun 81 pp 15-16

ABSTRACT: In the past several years, the early and late rice crops of Jinjiang District have suffered damages of varying degrees from planthoppers in the middle and late stages of growth. In 1980, the authors carried out field and laboratory tests with a group of new insecticides, including 80 percent DDVP, 25 percent ethylamidine, 40 percent dimethoate, 25 percent methylamidine, etc. and a group of native farm insecticides, including sand mixed with diesel oil, water buffalo urine, kerosene, etc. Positive, short term (24-48 hours) effects are confirmed with all of these insecticides.

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ORG: WANG, CHEN of Science Committee, Fuqing County Bureau of Agriculture; WU of Dongsheng Brigade, Fuqing County

TITLE: "Technique of Oversummer Spore Culture of Fine Green Duckweed in Paddies"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 3, 10 Jun 81 pp 21-22

ABSTRACT: For a long time, there had been a problem in producing red duckweed. The asexual technique of propagation requires year-long breeding and care in the field. In 1965, the authors began to study the sexual propagation method for red duckweed, but the local species used had a low spore formation rate to cause the research to advance very slowly. In 1979, a species of fine green duckweed was introduced. The required temperature for propagation of this species is low, the reproductive process is fast, the yield is high, and its effect as a fertilizer is great. It was, therefore, quickly accepted by the masses. There was only the problem of oversummering, because the nutritional body of this species cannot tolerate high temperature. An experiment was carried out early in 1979 to raise its spores in the field in the summer. Sporocarps were gathered from the field in late May to early Jun to be stored and planted in middle to late Aug. In 1980, 7 jin of sporocarps were thus planted in 90 mu of paddies to grow for 150 days to produce a harvest of duckweed weighing 85,000 jin. Details of this duckweed culture technique are described.

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TITLE: "Ecological Characteristics and Formative Condition of Small-bodied Fujian Swines"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 3, 10 Jun 81 pp 27-29

ABSTRACT: The small-bodied local swine species are products of prolonged breeding and hard work of the masses of Fujian Province. They have the ecological characteristics of being suitable for the natural environment and the social, economical, and management conditions of the province. They consist of 3 types: the black colored Huaizhu, the spotted Northern Fujian Huazhu, and the black colored Putian Heizhu. Their common characteristics are: the weight of adults is 65-85 kg; they are very tame; they mature early (the mating age of sows is 5-6 months); they have thin skin and thick meat; and they have a high dressed rate (70-76 percent.) This paper discusses the relationship between the formation of the 3 swine species and the ecological environment, the geographical environment, the climatic condition, the socioeconomic condition, and the feeding and management condition. Some possible improvements are suggested.

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TITLE: "Reasonable Development and Utilization of the Natural Grassland Resources of Fujian"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 3, 10 Jun 81 pp 31-34

ABSTRACT: In Fujian Province, natural grassland and shrubbery suitable for grazing occupy more than 47,000,000 mu, amounting to 26.3 percent of the land area, and more than twice the size of the arable acreage. But, the grassland areas are very scattered; there are only 650 patches measuring more than 1000 mu each. The composition of the vegetation is very complex and the fodder is of poor quality. The author proposes that research work on breeding, propagation, and introduction of good quality feed grass should be emphasized to establish bases of grass seed supply. Existing plants that are poisonous to animals should be removed. Wherever suitable, man-made grassland should be developed. Reasonable fertilizer application and seeding should also be emphasized to improve the quality of the grassland. Data of grassland development in the USA, New Zealand, and England are mentioned to support the author's ideas.

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TITLE: "On the Four Constructions to Establish a Foundation for Citrus Production"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 3, 10 Jun 81 pp 37-40

ABSTRACT: The development of the citrus industry has been very fast in Fujian in recent years, but there is a lack of overall planning. There are a large number of citrus orchards of mature but nonproducing trees. The yield varies a great deal from year to year, and the unit yield is low. In order to produce commercial fruits in a large scale, it is necessary to have a stable yield of more than 2000 jin/mu and the fluctuation from year to year must not exceed 15 percent. If this objective is to be reached, the author maintains that (1) There should be a basic construction of breeding superior varieties and seedlings; (2) The soils of the citrus orchards should be improved on the basis of regarding the project as a basic construction; (3) There should be construction projects to improve the irrigation facility of orchards; (4) large scale afforestation is the fourth construction project to cover all barren areas surrounding citrus orchards with suitable vegetation so as to improve the ecological environment for the citrus trees.

6248

CSO: 4009/387

Construction

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TITLE: "Strengthen Equipment Management and Improve the Level of Equipment Management"

SOURCE: Beijing SHUINI [CEMENT] in Chinese No 5, 10 May 81 pp 2-4

ABSTRACT: Equipment management is an important part of managing an enterprise. It is the precondition if the enterprise is to realize good quality, low cost, safe, and balanced production to guarantee the completion of the State's plan. In order to manage the equipment well, the work should include the following aspects, the paper maintains: (1) Planned inspection and repair of the equipment should be strengthened; (2) Efforts should be given to the research on techniques of early forecast, inspection and monitoring of deterioration and damage of equipment and its parts; (3) Carry out work of simplification, serialization, and standardization of types and parts specifications of cement equipment; (4) Perform good basic work of equipment management, including record keeping, setting up quality standard for inspection and repair work, and maintaining complete sets of drawings of the equipment.

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ORG: Jinan Cement Plant

TITLE: "Several Viewpoints in Improving the Quality of Standing Kiln Cement"

SOURCE: Beijing SHUINI [CEMENT] in Chinese No 5, 10 May 81 pp 28-32

ABSTRACT: Quality instability of clinker is a common problem in today's standing kiln cement production. The paper discusses this problem in the following 10 aspects: (1) The effect of the ratio of height to diameter of the kiln on the clinker quality depends upon many other factors; (2) Enlargement of the opening also depends upon other conditions; (3) Height of kiln cover and chimney is important; (4) Composition of the mixture should be reasonably chosen; (5) A low iron mixture should be investigated; (6) The raw material should be as homogenous as possible. (7) The fuel affects the quality of the clinker; (8) A stable ratio of coal to raw material improves the stability of granulation of the clinker; (9) Quality management measures guarantee the quality of the cement product; (10) Work procedure parameters should be adjusted when the standard for the soft processing method (mainly the quantity of water used will be different) becomes official on 1 Jan 80.

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CSO: 4009/380

Labor System

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TITLE: "Changes Following the Adoption of Linking-yield-to-labor in Rice Production"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Jun 81 pp 13-14

ABSTRACT: Although the paper does not include a clear description of the system of linking-yield-to-labor, it appears that it involves the designation of a plot of the collectively owned land to be farmed by a member or a household of the collective body, with a predetermined minimum yield guaranteed by that member and a system of awards for surplus and penalty for shortage. The term obligated-plot is mentioned, not to be confused with private plot. The author paid a visit to Qionghai County of Hainan Island, Wengyan County of Northern Guangdong, and the Banfu Commune of Zhongshan County of the lower reaches of the Pearl River Delta, where the aforementioned system has been adopted, by 83 percent of the production teams last year and more than 90 percent this year, in case of one commune. Aside from numerous yield increase data credited to the system, the paper also mentions that it is essential for the system to set the guaranteed yield at 3-5 percent above the 3-year average, or 1-3 percent above the historical high, and to guarantee the member that there will be no policy change for 3 or 5 years if the system is to bring about all the favorable results described in the paper.

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TITLE: "Linking-yield-to-labor is Feasible for Wheat as Well"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Jun 81 pp 15-16

ABSTRACT: Since collectivization, the labor contract [guaranteed amount of labor] for each small section of land at a given amount of pay has been the system with respect to field management for wheat. The system persisted throughout the 10 years of catastrophe [referring to the Culture Revolution, presumably.] The system is the important reason for the tremendously successful wheat production (at an average yield of 500 plus jin/mu) of the district. Some believe the linking-yield-to-labor system would be a step backward, would amount to risking the success already achieved, would not be necessary in view of the high degree of mechanization, and would encounter the problem of the masses unwilling to assume the responsibility of guaranteeing such a high yield level. This paper argues for a change of system. Among other reasons, it maintains that, using Houcun Brigade as an example, the members can see the benefits of the new system even the wheat yield is as high as 800 jin/mu. Masses are quoted to have said: "...the diligent will not sweat for nothing, the lazy can no longer fool around and eat."

Veterinary Medicine

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TITLE: "Preliminary Report of Observation of Introduction and Experimental Breeding of Large White Nicholas Turkeys"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 1, 81 pp 1-4

ABSTRACT: In suburbs of Beijing, Zhoushan Islands of Zhejiang Province, and a few other areas of China, turkeys, the bronze colored ones only, have been raised in small quantities. There is no large scale turkey farming beyond these. In Apr-Sep, 79, the U.S. citizen ZHANG Xianguang [1728 0342 0341], a fowl disease specialist, suggested during his lecture tour in China that turkey would be a good solution for meat supply. He subsequently contacted the Nicholas Farm of the USA, whose gift of 2 cases of turkey eggs arrived Shanghai on 22 Aug 79 and the cases contained 235 perfect and 165 broken eggs. Laboratory analyses of 20 randomly picked broken eggs disclosed no bacterial infections. Of the perfect ones, 217 were fertilized eggs and 160 chicks were hatched on 20 Sep. Average weight of the chicks, at 12 weeks, 30 weeks, etc., their feeding and other habits, incidences of diseases, and the survival rate at various stages are reported. Their egg-laying and reproductive properties are subjects being observed at present.

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TITLE: "Application of Blood Type of Domestic Animals in Animal Husbandry"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 1, 81 pp 18-24

ABSTRACT: Traditionally, blood type means blood characteristic determined by immunological techniques, i.e. blood type is determined by one or several antigen factors of the blood cell and is genetically controlled. The modern meaning of the term also includes many genetically controlled types of proteins and enzymes, however. Current knowledge concerning swine blood types and bovine blood types and their genetic factors are used as examples to illustrate the complexity of blood types of domestic animals. In animal husbandry, blood type determination may be used to (1) verify pedigree, especially in case of artificially inseminated births; (2) to study blood lineage and the origin of species; (3) to study the relationship between blood type and economic characteristics; (4) to serve breeding of animals of specific characteristics or adaptations.

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TITLE: "Surgical Treatment of Compound Chest and Abdominal Open Wound"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 1, 81 pp 34-35

ABSTRACT: While pulling a concrete telephone pole up a hill, a mule was hit by a car. It was immediately brought to the hospital, in the afternoon of 14 Aug 77, with fractured ribs and intestines and a portion of spleen leaking out of the open wound, measuring 22-25 cm. Surgery was performed followed with antibiotics, Chinese traditional drugs, etc. From 18 Aug on, it was on the mend. On 7 Sep, it was led from the hospital to walk 25 km back to its own production team. On 20 Sep, the unit, which owned the car, paid for the mule in addition to all the hospital expenses. The mule was retired and dissected. The surgical procedure and the dissection findings are reported.

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TITLE: "Surgical Treatment of Persistent Stomach Curvature Constipation of Horses"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 1, 81 pp 35-36

ABSTRACT: Constipation is a common disease of horses and mules, amounting to more than 70 percent of all their diseases. Statistics of the cases of the station in 1975-79 revealed a mortality rate of 40 percent for the stomach curvature type constipation cases, which amounted to 12 percent of all cases of constipation. The disease of stomach curvature constipation is difficult to treat and death often is the result of excessive administration of laxatives. A technique was gradually developed to apply pressure to the intestines after cutting open the abdomen and in some cases saline water was injected into the intestines as well. After this technique was perfected in 1979, the rate of cure of stomach curvature constipation was raised from 47.7 to 93.4 percent. The surgical and care procedure involved in the technique is described.

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TITLE: "Preliminary Report of Application of LH-RH and Similar Products for Animal Use, Made in China for Early Pregnancy Diagnosis of Dairy Cows"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 81 pp 4-6

ABSTRACT: Experiments were carried out with artificially synthesized LH-RH analogous product for animal use (No 7901, a product of Shanghai Biochemical Pharmaceutical Plant) to test pregnancy of 3 groups of dairy cows, on 4-10 days, 13-18 days, and 21-27 days following mating. Of the 62 cows tested, estrus did not appear for

[continuation of XUMU YU SHOUYI No 2, 81 pp 4-6]

37 heads in a period of 35 days, and 35 of these verified to be pregnant. Estrus appeared to 25 cows. The paper concludes that the product is safe within the dosage of 200-500 μ g, and if interference of other factors is discounted, the accuracy of pregnancy diagnosis may be as high as 90.9 percent.

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TITLE: "A Discussion on the Developmental Potential of Animal Husbandry Products in Jiangxi Province"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 81 pp 12-16

ABSTRACT: Jiangxi is one of China's major bases of commercial grain production, but it is very backward in animal husbandry. The value of animal husbandry products amounts to only 10.7 percent of that of all agricultural products. Traditionally raising pigs is a family affair; the same is true for chickens, eggs, etc. In the 30 years, the number of draft oxen has increased 40 percent. The dairy industry produces 0.5 jin of fresh milk per capita per year. Raising steers for meat is a new industry; there are now 6000 heads of hybrid steers of various breeds in the province. About 22 percent of the province is grassland, 7 times the size of available grazing land in all of Japan. Raw materials for processed feed are also plentiful. The author suggests that the potential for developing animal husbandry is tremendous if the practice of regarding it as an auxiliary industry is changed. Grain production should be the major enterprise of the agricultural economy but should not be the only enterprise. The development of the province's potential in animal husbandry depends, the author maintains, on rapid development science and technology related to animal husbandry and veterinary medicine.

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TITLE: "A Survey of Incidence of Tumors in 100,000 Plus Rabbits in Shanghai"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 81 pp 23-26

ABSTRACT: Two inspections of 103,781 rabbits in the Shanghai Rabbit Freezing and Processing Plant produced 210 tumor-like specimens and histo-pathological examinations of these determined 160 of these to be malignant tumors. Most of these are renal mother cell tumors, unlike related data of foreign countries, with unilateral cases far exceeding bilateral cases (143:7,) and infiltration and metastasis phenomena were observed. The average organic chlorine insecticide residue (666) in the meat of rabbits with tumors is 0.21 ppm, 1.65 times that of healthy rabbits (0.127 ppm); the total DDT content is 0.023 ppm for diseased rabbits and 0.009 ppm for healthy rabbits. The differences are obviously significant in bio-statistics.

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TITLE: "Clinical Analysis of Congenital Muscular Spasm of Piglets"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 81 p 34

ABSTRACT: Congenital muscular spasm of piglets has been frequently reported in foreign countries. In China, there are cases in all areas. Out of 165 new piglets of Jul 72, 34 reveal this disease in different degrees of severity. The symptoms disappear in 10 or so days after birth, but the disease affects weight gain and the survival rate is only 85 percent of that of piglets born healthy. Analyses of the relationship between the incidence of the disease and the breed, the relationship between the health, the number of pregnancies, and the age of the sow and the incidence of the disease in the piglets, and the relationship between the incidence of this disease and the feeding and management of the swine herd seem to indicate that unbalanced feed and moldy feed may have possibly affected the appetite of the sow and the development of the fetus and the inferior feeding practice may have also caused a confusion of the neurological tissues and functions. Future work in studying the histo-morphology of the central nervous system and the blood chemistry of the diseased piglets, in identifying the molds, isolating the toxins, and in feed and breeding experiments is awaited. Preliminary studies here reported have excluded genetic factors, however.

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CSO: 4009/357

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TITLE: "Indirect Blood Agglutination Test In the Diagnosis of Trypanosomiasis of Domestic Animals"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY]
in Chinese No 5, 20 May 81 pp 9-15

ABSTRACT: Due to the fact that the appearance of trypanosomes in the blood of sick animals is often uncertain, especially in case of chronic cases or in sick oxen or water buffalos, examination of blood smears under the microscope is not dependable and death of animals and continuous spreading of the disease will be the result of missed victims. Since the creation of the indirect blood agglutination technique, its applications for the diagnosis of other diseases of parasitism have been frequently reported, but there have been few reports here or abroad of its application for the diagnosis of trypanosomiasis. This paper reports satisfactory experiments and clinical applications by the authors, Jul 79 to Apr 80. The technique employed is described.

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TITLE: "Observation of Vitality of Toxoplasma gondii by IB-RS-2 Cells After Irradiation of Tachyzoites"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY]
in Chinese No 5, 20 May 81 pp 15-21

ABSTRACT: In a previous paper (SHOUYI KEJI ZAZHI No 1, 80) the authors reported detailed observation of tissue culture, splitting propagation inside the tissue, and propagation culture of Toxoplasma gondii. This paper reports a continuous study on the relationship of cell vitality after fast irradiation of Tachyzoites with varying doses of Co⁶⁰ γ-ray. The objective of this study is to observe the ability of the irradiated parasite to invade the cell and the action [of irradiation] in suppressing the multiplication of the parasite so as to investigate the possibility of obtaining weakened antigen. Results indicate that reproductive ability of the parasite in the body of white mouse is not lost unless radiation above 20Kr is applied.

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TITLE: "Research on Micro-grain Skin Grafting Technique and Its Application in Clinical Veterinary Medicine"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY]
in Chinese No 5, 20 May 81 pp 30-33

ABSTRACT: At present, a great difficulty remains in the treatment of large area skin injury, because allografts cannot be kept alive for a prolonged period of time. The technique of micro-grain skin graft is the use of small quantity of skin to repair a large area of missing or damaged skin. The authors experimented with promoting the survival and growth of micro-grain skin grafts by adding saline solution and nutrients to the grafts, based upon the theory of tissue culture. The micro-grain grafts, thus treated, were transplanted on experimentally injured ears of rabbits and the condition of healing was observed. Generally speaking, healing occurs in 9-12 days in the transplanted group; in the control group, healing requires 20-29 days. The micro-grain grafts also appear to improve the condition of scars.

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TITLE: "Electrical Acupuncture for the Treatment of Infertility of Female Animals"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY]
in Chinese No 5, 20 May 81 pp 33-34

ABSTRACT: In China, the treatment of mares [female equine animal] with electrical acupuncture for infertility has been reported but not its use to treat infertility in other female animals. Since 1978, the author and colleagues have repeatedly experimented with using acupuncture to treat infertility in cows, female donkeys, and female sheep, a total of 86 individuals of 11 different species. After treatment, 60 of these foaled and 20 ovulated, amounting to an effective rate of 93 percent. Acupuncture was without effect for 6 cases, amounting to a rate of 7 percent. The technique, typical case histories, and the acupuncture points used are reported.

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